

VOL. 78

NO. 12

This issue contains a number of reports of meetings held by the various divisions of the Southern Textile Assn. during recent months, in addition to accounts of the A.A.T.C.C. and yarn producers' conventions.

# textile bulletin

DECEMBER • 1952

## Sectional

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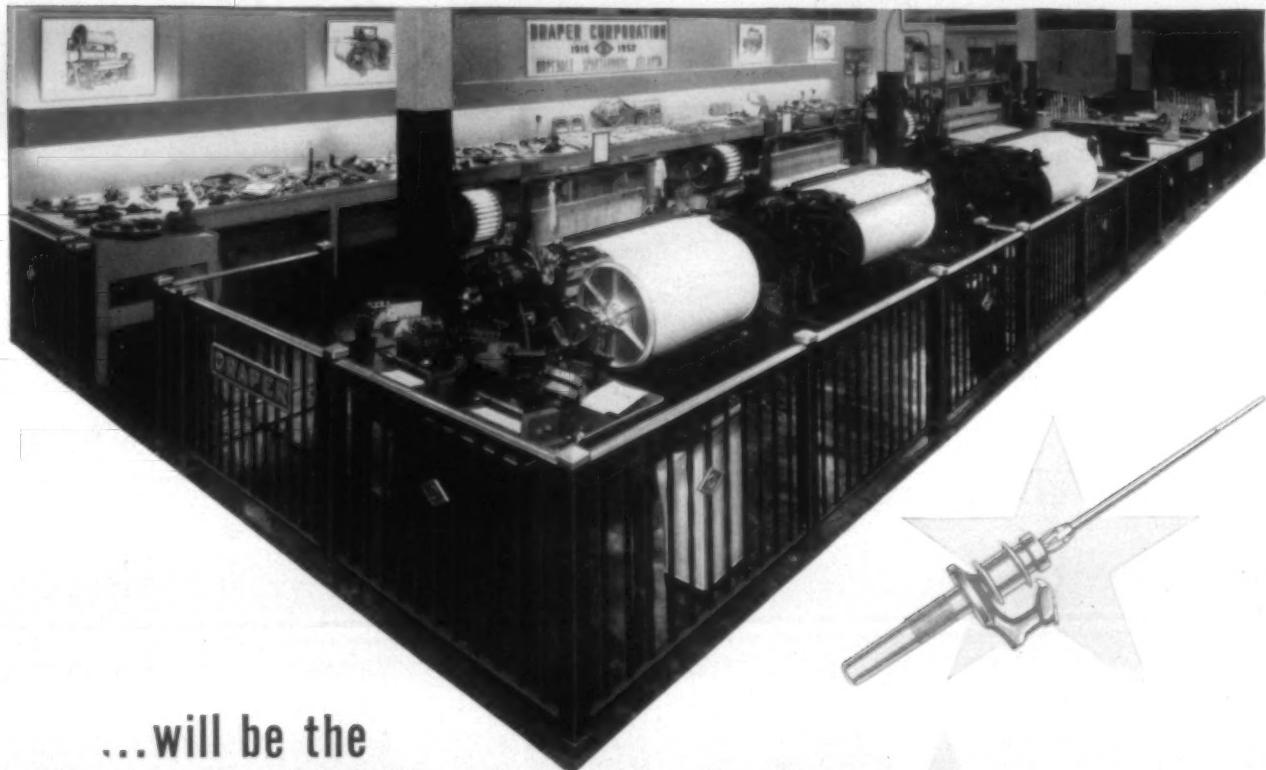
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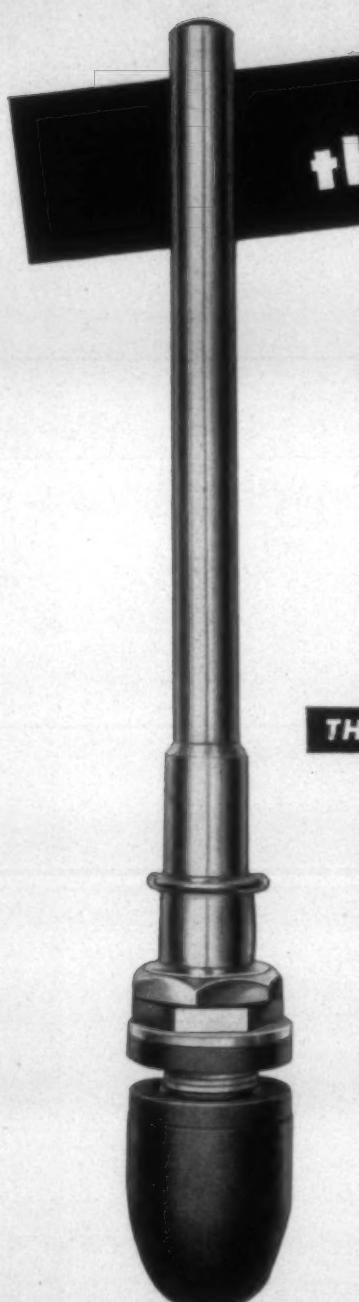
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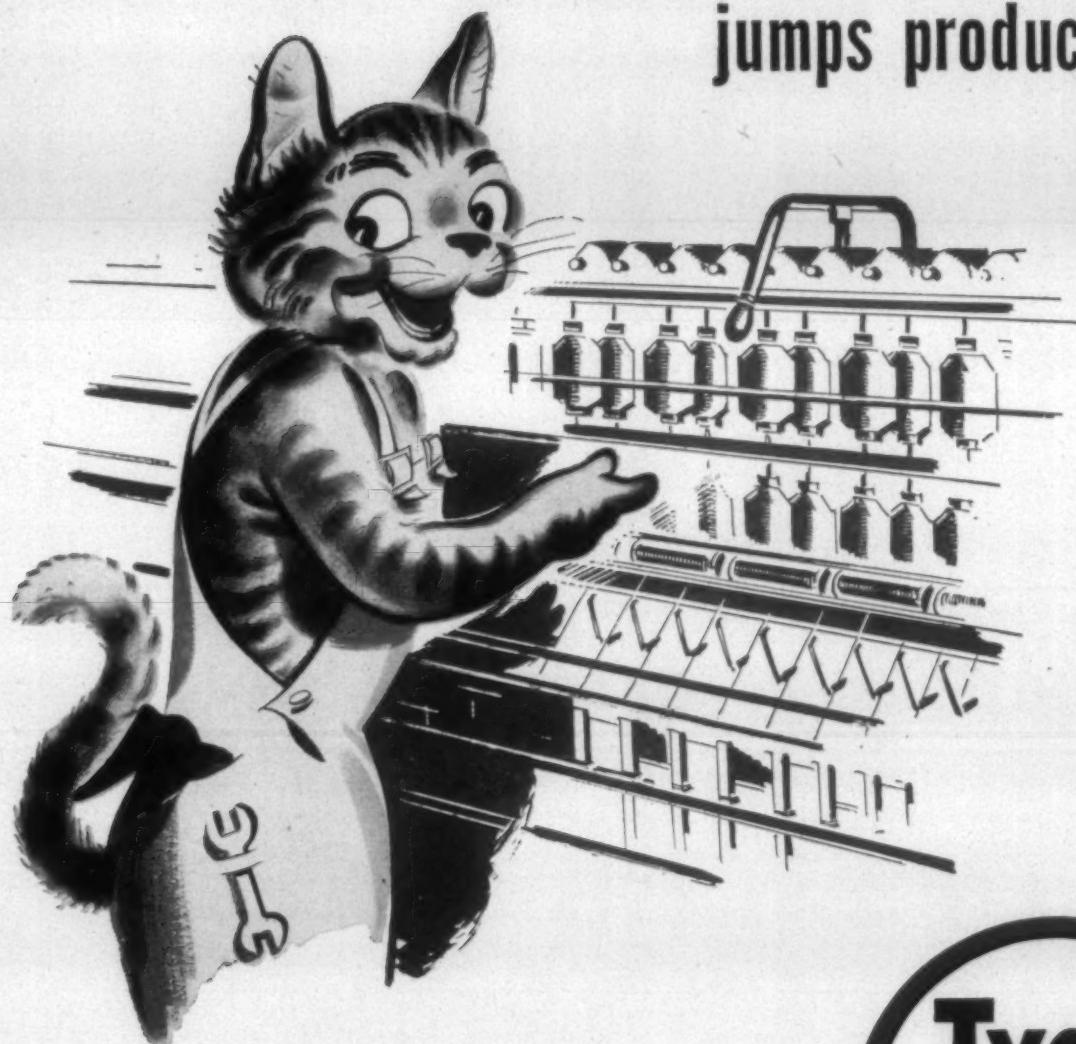
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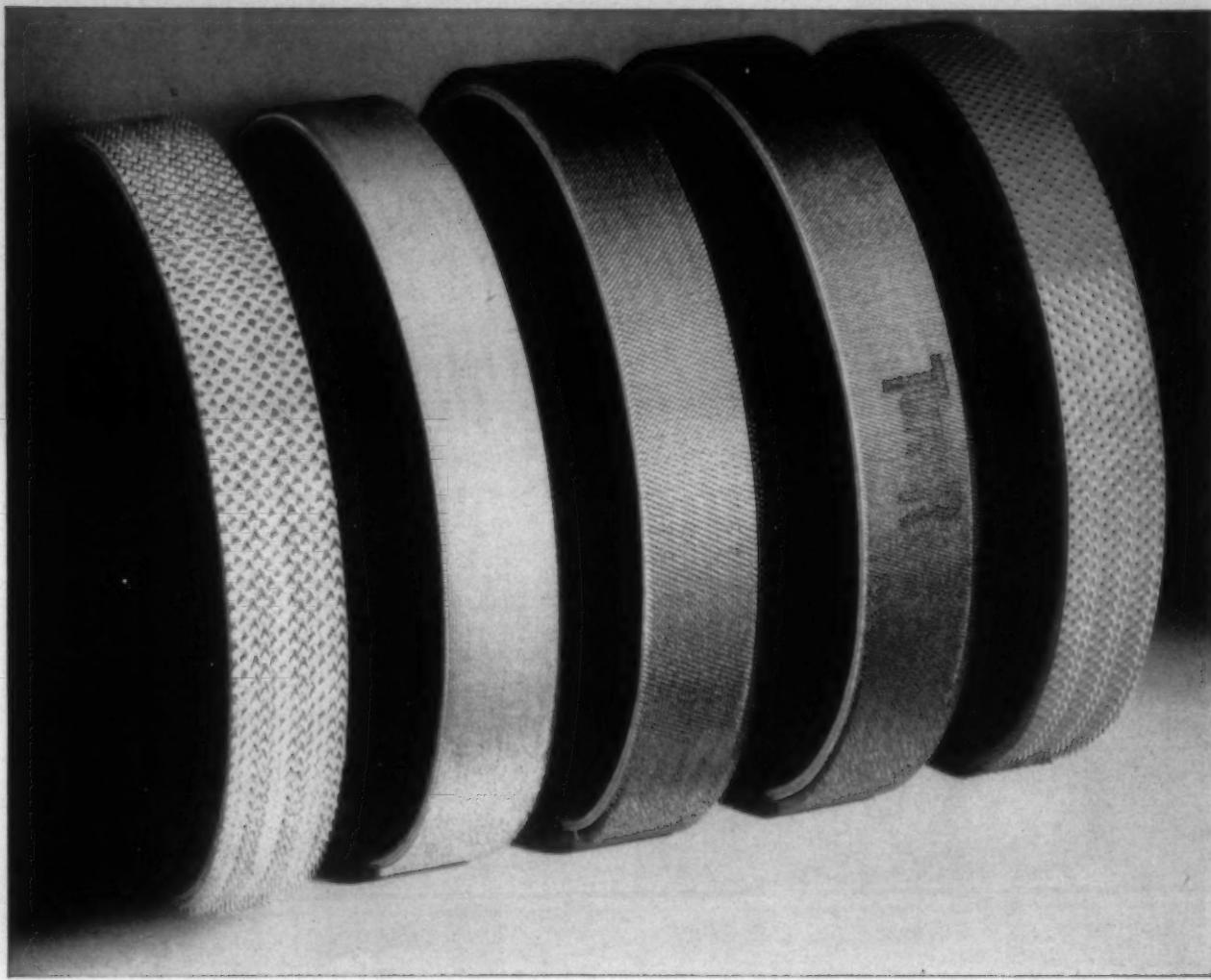
TEXTILE BULLETIN • December, 1952



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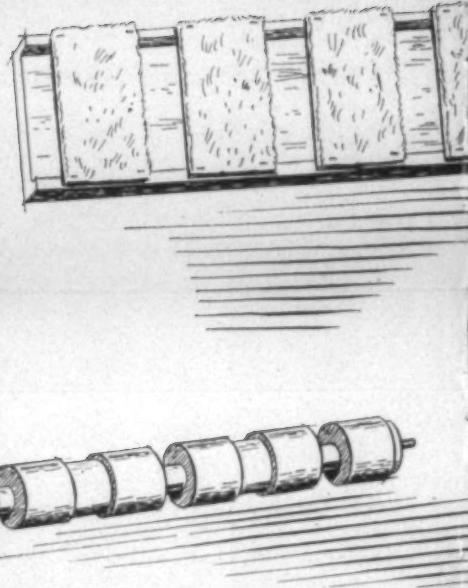
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# Remember this when you change to REVOLVING CLEARERS



**Call your Armstrong man...be sure your**

**YOUR ARMSTRONG MAN** has plenty of textile experience, and he's always glad to work with you. When you have a roll covering problem, feel free to call him in . . . any time.



When you're making a change from flat to revolving clearers, don't forget to check your cots. Roll covers originally chosen to pack waste far back on a flat clearer often cause excessive slubbing when used with revolving clearers.

A good way to be sure your roll covers will be right is to call in your Armstrong man *before* you make the change. He can tell you definitely whether or not your present roll covers will continue to give good performance with the new clearers.

Many mill men make a regular practice of talking over proposed changes with their Armstrong representative. Their reason is simple: again and again they've found he has the answers to their roll covering problems. And when new cots are needed, his specialized training, plus the completeness of the Armstrong Line, helps him supply exactly the roll cover you need.

**ARMSTRONG'S**



## roll covers are right for revolving clearers

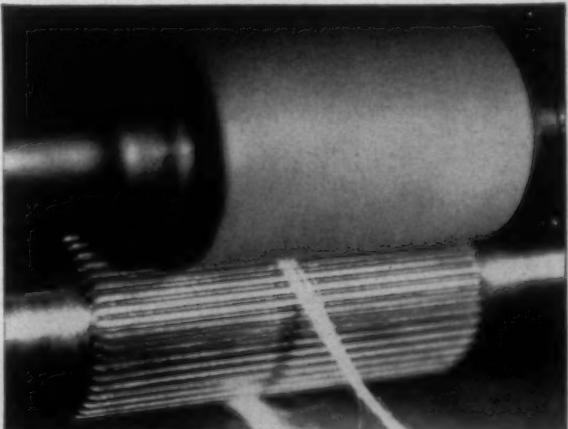
He has cork where cork is called for—and he has a variety of Accotex® Cots. Accotex Cots are made in straight rubber and in cork-and-rubber combinations. Each formulation comes in a wide range of firmness to give you the right cushion for your particular work. And every Accotex Cot contains "electrolytes" to reduce lapping.

So remember, when you have a roll covering problem—whether it's routine maintenance, a change in equipment, or an emergency—be sure to call on your Armstrong man. In most cases, he'll be at your mill within 24 hours after your call.

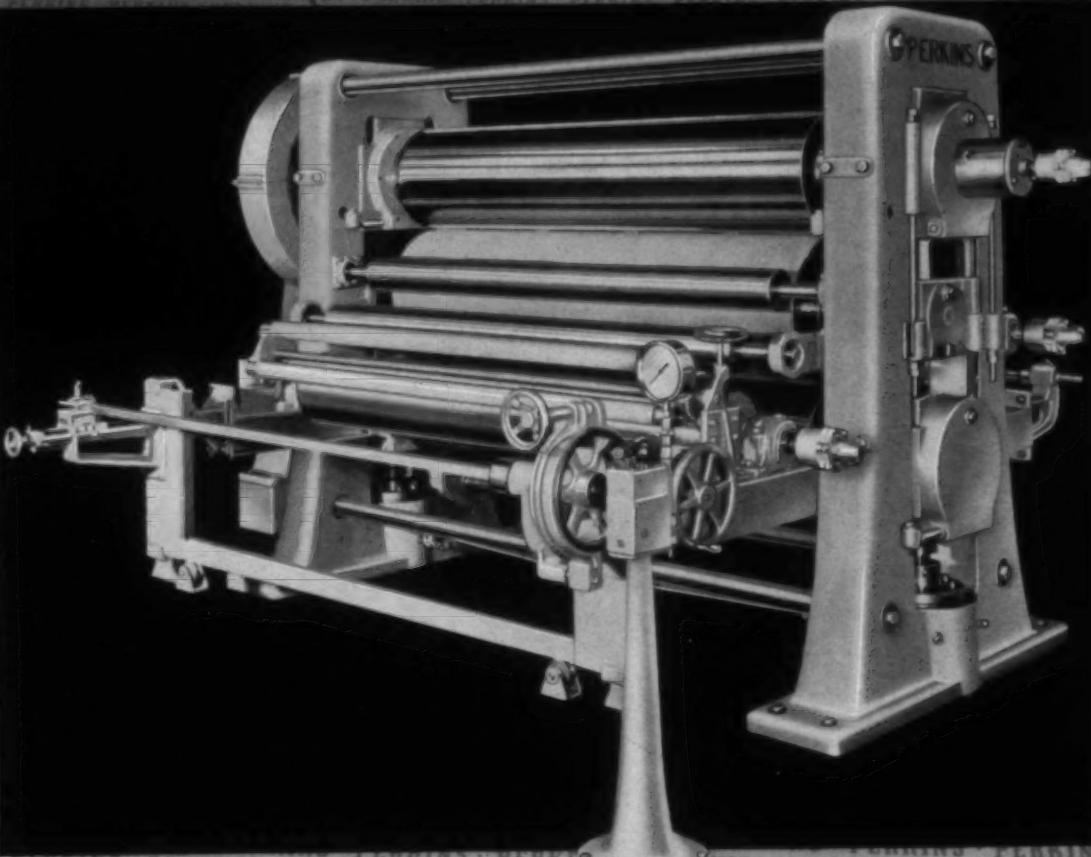
If an Armstrong man doesn't call on you regularly, please write us and we'll put you in touch with the nearest one. Armstrong Cork Company, Textile Products Department, 8212 Arch Street, Lancaster, Pennsylvania. All Accotex products are available for export.



## ACCOTEX COTS



**THIS LONG-WEARING ACCOTEX COT RESISTS LAPING**  
It's 20 seconds since the roving broke—and it still hasn't lapped! The reason is built right into the Accotex Cot. It contains certain electrolytes that remove the basic cause of lapping—attraction between electric charges in the moisture layers on the cot and fiber. With many covers, lapping occurs almost instantly—but Accotex gives the yarn time to reach the scavenger roll before lapping can occur.



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to this new three-roll 83" face 60-ton Hydraulic Rolling Calender. Top and bottom rolls, chilled iron. Intermediate roll, cotton. This calender is equipped with variable speed drive, pre-heating drum, cooling drum, three-bar tension group and a let-off which is adjustable laterally and horizontally.

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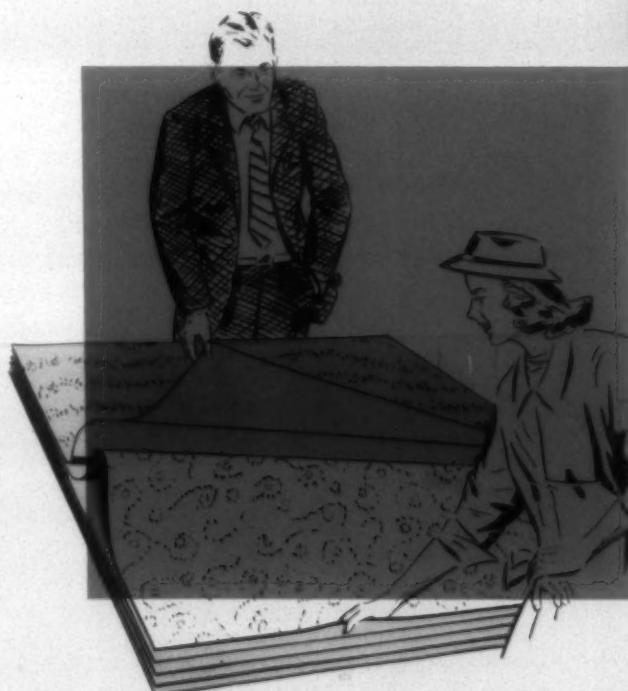
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clear-  
bright-  
light fast

SAPPHIRE AR

Use this bright, reddish-blue anthraquinone dye as a self color or in combination with other fast dyes for such applications as piece goods and carpet yarn. It is extremely level dyeing and has excellent fastness to bleeding, spotting, soaping and rubbing; good fastness to light. Used in fiber blends, it dyes nylon effects appreciably stronger than wool; stains cotton, viscose and acetate effects but very slightly.



## SEND FOR TECHNICAL BULLETIN NO. 362

Ask our nearest office for your copy of this new bulletin which shows dyeings and gives complete properties of this widely useful National Dye.

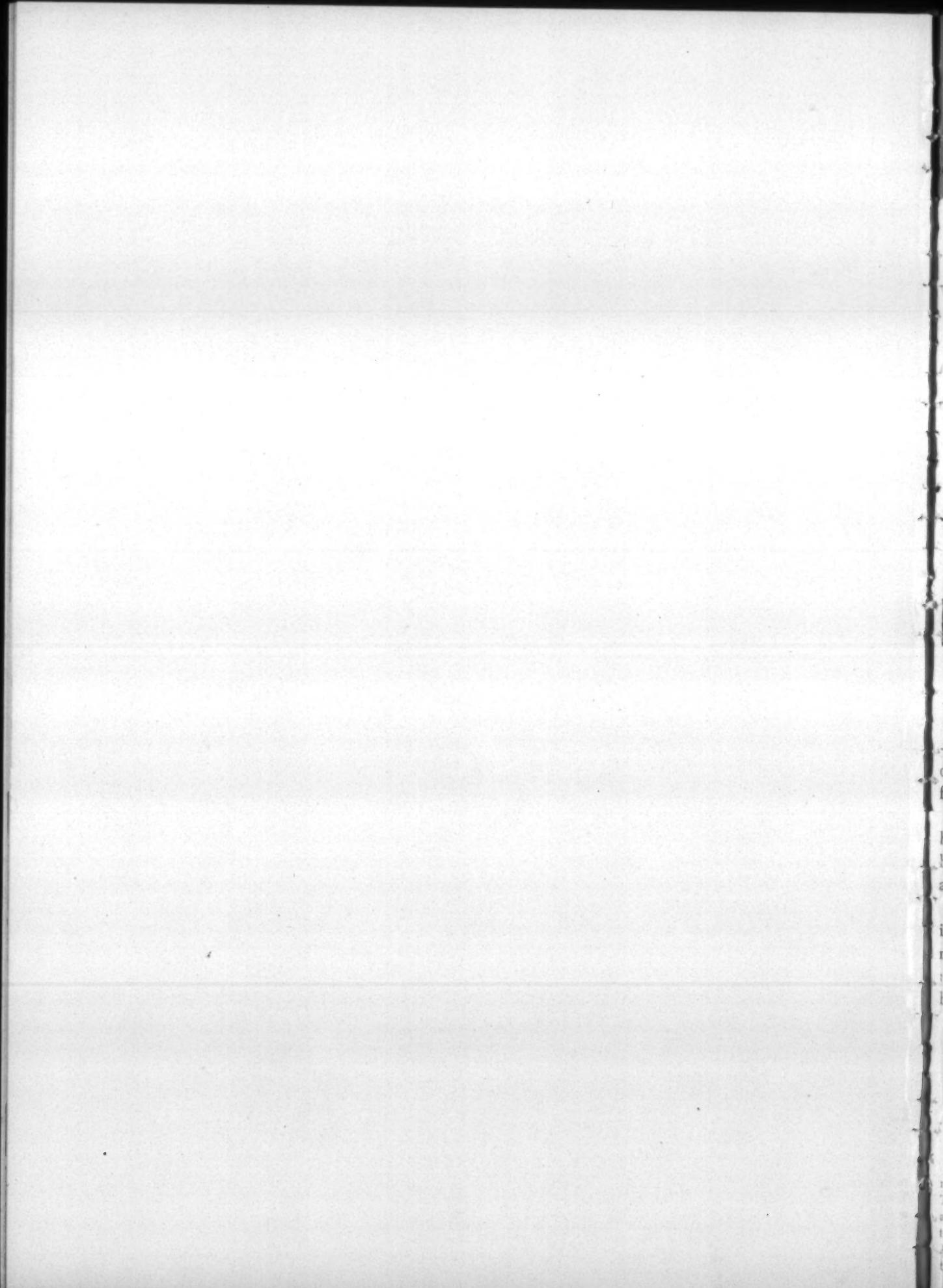
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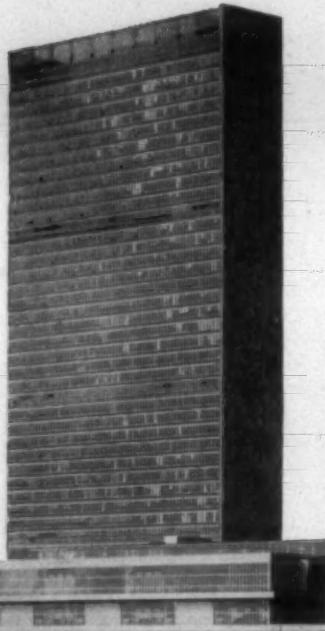




# Rayon Reports

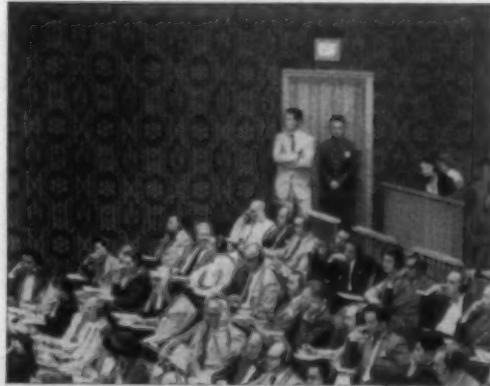
Prepared Monthly by American Viscose Corporation, New York, N. Y.

DECEMBER, 1952



The ultra-modern U.N. Secretariat Building recently completed in New York City.

## Rayon used for draperies in United Nations Buildings



Huge all-rayon tapestry wallcovering, woven in Norway, provides a symbolic background in Security Council Chamber—flaming hearts, shocks of wheat for fertility, and anchors for security.



Avisco rayon makes up 56% of the exquisite draperies reaching two stories high in this Conference Building lounge. Rayon's strength and soft beauty are a feature of this blend with cotton, mohair and gold metal fibers.

In the new U.N. buildings where attention of the entire world is focused—buildings as modern as tomorrow—rayon is contributing a welcome touch of soft, durable beauty to many of the draperies hung against the highly functional setting.

Blended with other fibers, Avisco rayon's ability to impart warm, friendly beauty, soft luxurious hand, and interesting textures and color combinations, has made it the choice for draperies in a number of the U.N. offices, suites, and lounges.

Other countries, too, helped to create the international tone of the buildings' furnishings, and it is noteworthy that a number of them also specified rayon. Examples are the huge all-rayon tapestry wallcovering from Norway used in the Security Council Chamber, and the Swedish draperies in two hallways and a restaurant lobby.

### Simplified Identification of Fibers Welcomed by Textile Technicians

#### Avisco T.R.D. Engineer Tells New Plan; Copies of His Paper Now Available

In response to many requests, copies of a recent report by William R. Wilson of Avisco's Textile Research Department have been made available to the textile industry. The presentation, entitled "A Systematic Scheme of Fiber Analysis by Solvent Action," was given before the American Association of Textile Technicians.

Mr. Wilson pointed out that there are often so many different fibers in today's textiles that it has become very difficult to identify them. In a step-by-step description, he outlined an orderly procedure that requires only simple equipment and readily available chemicals. As many as twelve different fibers, natural and synthetic, can be identified by the method. For your copy of the talk, write or call American Viscose Corporation, 350 Fifth Avenue, New York 1, N.Y.

#### MAKE USE OF *Avisco*<sup>®</sup> 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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##### 2 FABRIC DESIGN

##### 3 FABRIC PRODUCTION

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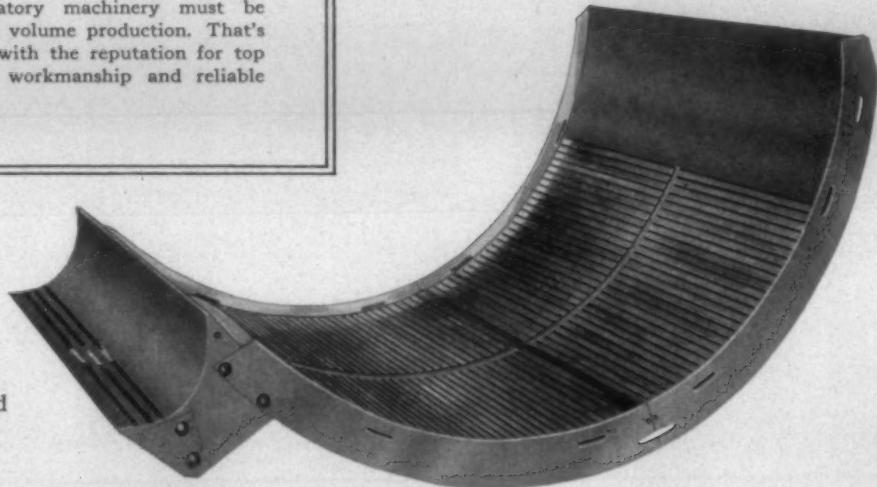
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The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.

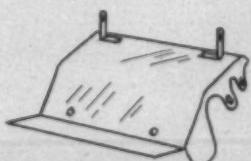
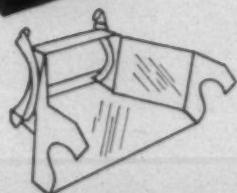
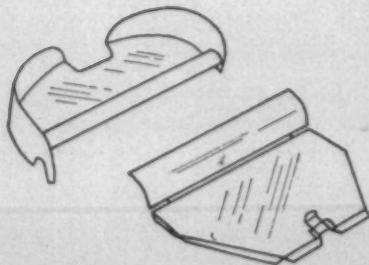
Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.



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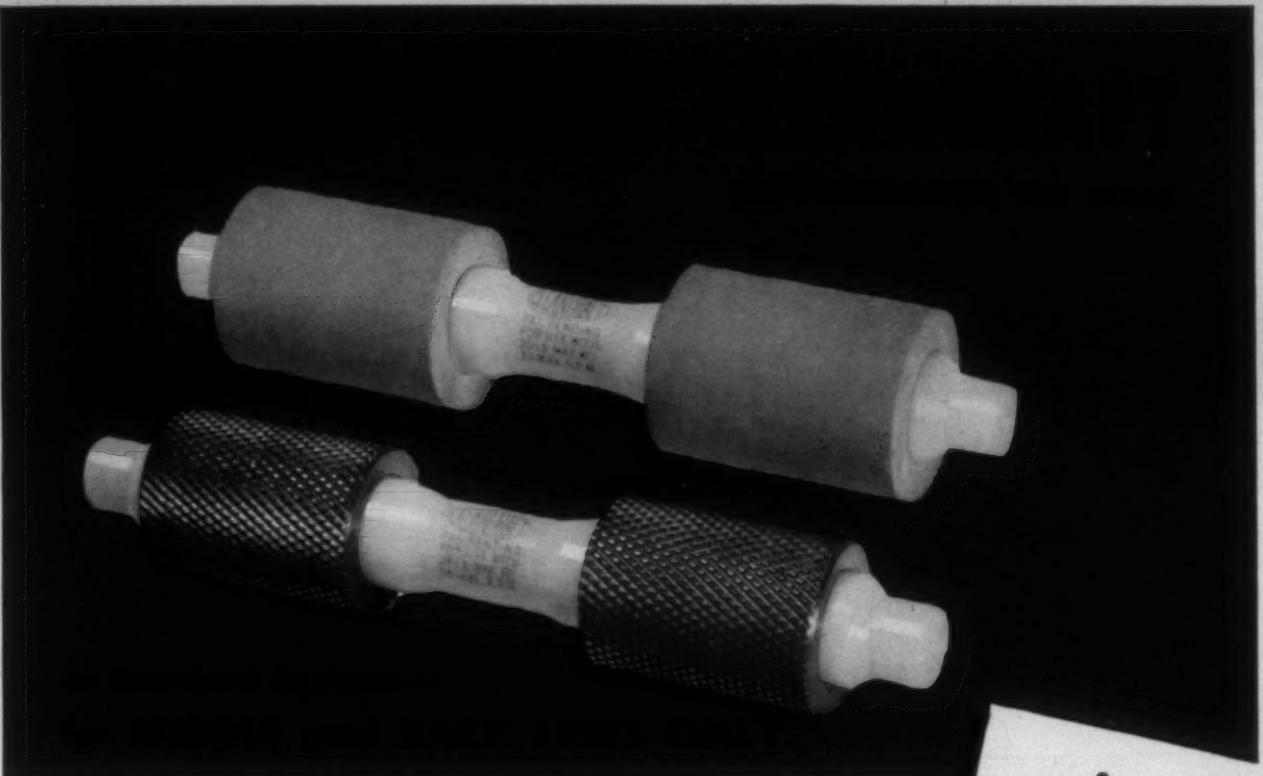


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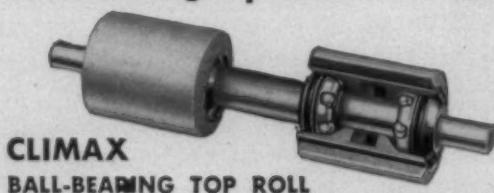


### Advantages of CLEANDRAFT Rolls —

- eliminates all oiling expense.
- greatly reduces picking cost; cycle extended to as little as once in several weeks.
- gives cleaner yarn free from oil.
- improves quality of yarn.
- increases yarn breaking strength.

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*Whitin* has already previously adopted **CLIMAX**  
Ball-Bearing Top Rolls as standard where anti-friction rolls are specified.



**CLIMAX**  
BALL-BEARING TOP ROLL

Climax Rolls on front line form an ideal combination with Cleandraft Rolls on middle and back lines for spinning and roving. Under some circumstances, Climax Rolls are advantageous for all three lines.

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Liquid 50% Standard and Rayon Grades  
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#### Flake and Solid

#### CAUSTIC POTASH

Liquid 45%

#### Flake and Solid

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With integrated production at South Charleston, West Virginia and Carteret, New Jersey we render exceptionally good service to Northern and Mid-South mills. We may be able to serve you more economically or efficiently. Why not give us an opportunity to quote on a share of your needs for any of the Westvaco Textile Chemicals listed here.



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The

## SOUTHERN TEXTILE HERITAGE

By W. M. McLaurine

— Part Ten of a Series —

**I**N THE Spring of 1936 when Donald Comer of Avondale Mills in Alabama was president of the American Cotton Manufacturers Association, the annual convention was held in Washington, D. C., with headquarters at the Mayflower Hotel.

The general theme of the convention was in keeping with Mr. Comer's philosophy of portraying to the public that the textile mills of the South are a dynamic economic and social factor in balancing agriculture and industry and regardless of criticism of jealous areas or zealots of social reform, their policies and philosophies are not only undisputable refutations to the criticisms but positive evidence of social and economic progress.

The discussions were based on factual presentations. Mr. Comer, who has always been a social statesman, has a national reputation in his industrial philosophy. Nor is he the only one who has done so much to improve men and machinery, living and working conditions, wages and hours—in short,

to make the textile industry outstanding in all of its important relations to the individual and to the society as a whole. So much has and had been done to make the industrial community fit the democratic ideal and the democratic way of life and since the worker had been the subject matter for these castigators of wealth, Mr. Comer decided that in addition to the oral exposition of the merits of the industry as given in the speeches and reports, it might be well to give to the people of the convention, of Washington and the nation as a whole (through the press), a visual example of the social and educational ideals of the industry.

Through Mr. Comer's May Day School celebrations and his week of open house each year for the general public, he was anxious to extend these picturesque dramas of practical social life in the mill village.

At the A.C.M.A. annual banquet, there nearly always was some form of entertainment and since I was secretary and treasurer of the association

at that time, we discussed the idea of carrying a group of his school children from his various plants to Washington so that the politicians and the public could see the children of the workers—their bodies, their clothes, their education and their self-confidence as they were and are trained in the American Way of Life. After much discussion and planning, Mr. Comer agreed to the idea although it was a prodigious and expensive and responsible undertaking.

We then met with the teachers, the social workers, the dramatic, science and musical directors and others. The plan and the program and the practice for the performers were all outlined and when the venture was completed, there were about 80 boys and girls together with their trainers, supervisors and wardrobe caretakers. A glorious, glittering, garrulous gay group off to "Treasure Island" beamed as the idea became a reality.

They were to do no special act or buy any special "city clothes." They were to do the things they did in school and wear the clothes they wore in their routine social life at home. The school busses used by the Avondale Schools were to be used in their transportation to Washington. In Washington they were domiciled in one wing of the Mayflower Hotel. In the dining room they ate at one big long table and of course the Comer family ate with them. I believe no imperial potentate and train received as much attention as these Alabama lads and lassies. They swarmed over the hotel. They were the essence of dignity and decorum—



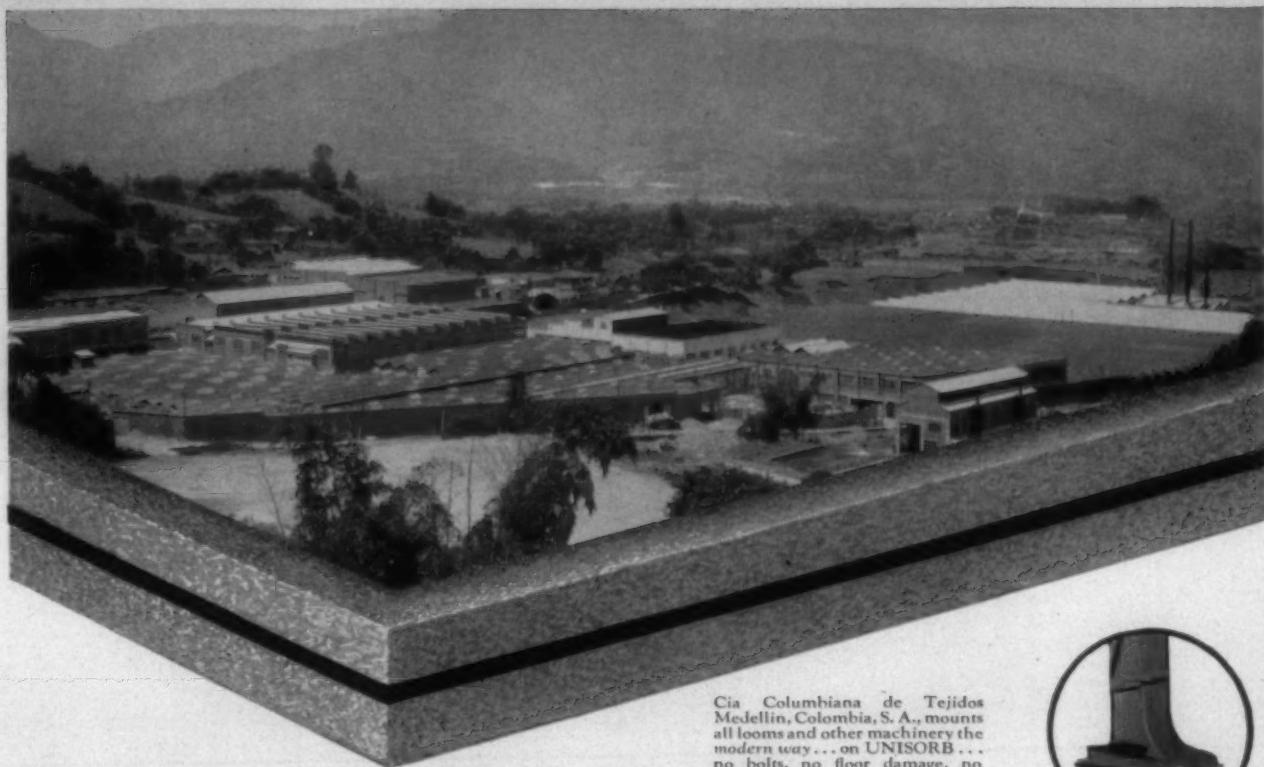
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Medellin, Colombia, S. A., mounts  
all looms and other machinery the  
modern way... on UNISORB...  
no bolts, no floor damage, no  
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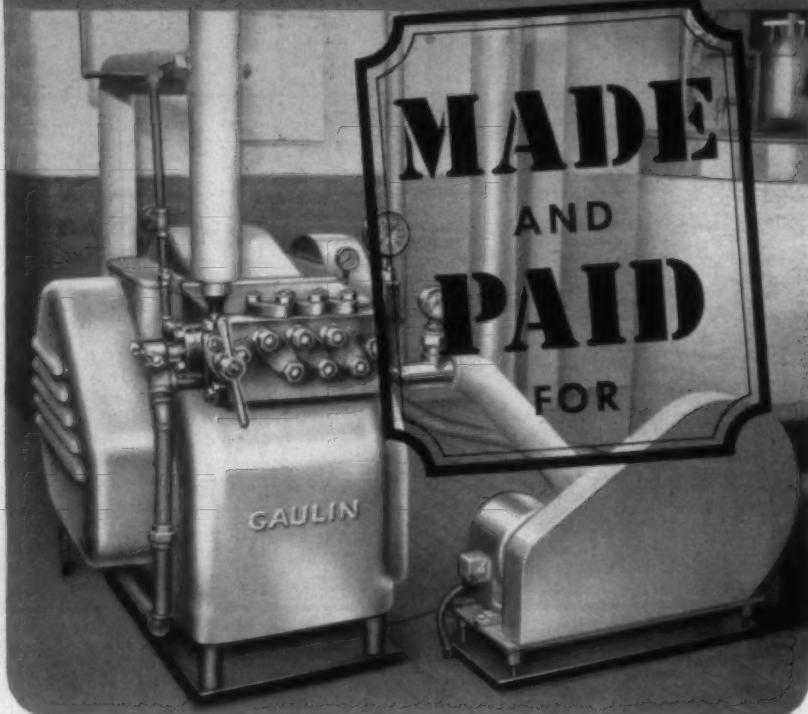
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## **...with a Gaulin Homogenizer**

Experience in hundreds of installations proves Gaulin-Homogenized Size makes a stronger, more elastic yarn . . . that sheds less . . . and breaks less at the loom and slasher.

What's more, savings in starch alone quickly pays the cost of installing a Gaulin Homogenizer. Cotton, worsted, and rayon mills also report substantial savings in reduced labor, cooking-time and steam.

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someone was always stopping some little child to find out about him or her and what he or she thought about Washington. The dining room was always full of queries as to whom these children were and why they were there.

By the time of the banquet, so much enthusiasm had been created by "these cotton mill children" that every one wanted to go to the banquet or sit in the gallery and watch them perform. I finally had to place guards at all entrances after the banquet hall and galleries had been filled because there were clamoring crowds waiting to see the show.

A great stage had been constructed. Lights and music were in readiness. The children had eaten their dinner early and had been dressed and now as they paraded through the lobby the enthusiasm increased. The only special feature done for the children was that after they had dressed they went through a "beauty parlor" which we had arranged and here experts dressed the hair for the girls and fixed the faces and eyes of all so that the lighting effect would be satisfactory.

They entered the hall with as much applause as prima donnas at the opera. Arranged on the stage in their own particular clothes they really looked like some great climax in an opera. The introduction was made and the acts began. Singing, dancing, tumbling, solos and choral work with a speed and precision that were faultless.

Senators, Congressmen, bankers, men and women from North and South, East and West—roared their compliments and applause while these "mill children" thrilled them. Truly it was a glorious occasion. The aftermath of the banquet was the discussion of the poise, precision and performance of the children. It was difficult to believe and yet there they were in flesh and blood—a living example of the social and educational opportunities of the textile industry.

But this was not all. The next day the White House cordially invited the children and their companions to a tea at which Mrs. Roosevelt personally received them.

Happy and having given to millions of Americans a real picture of the children of the textile industry, they bade goodbye to Washington with many memories and a great public acclaim by all to them for their contribution to the understanding of what goes on in textile industrial life among its young people.

# A BRIGHTER VIOLET

*for Nylon or wool*



The violet here is Du Pont ANTHRAQUINONE VIOLET A. It is suitable for dyeing nylon in any form to unusually bright shades. On wool, light fastness is moderate to good, and the fastness to crocking and hot moist pressing is very good. This acid dye gives a brighter shade than comparable dyes and is also valuable as a shading element for increasing brightness in combinations.

Du Pont ANTHRAQUINONE VIOLET A has excellent hot solubility. It is level dyeing, shows good absorption and possesses very good affinity for the two fibers. For information on Anthraquinone Violet A... or for help on any coloring problem—consult our technical staff. E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

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*150th Anniversary*

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

## WHAT OTHERS ARE SAYING

### New Wonder Fiber

**N**EW YORKERS last Spring saw dangled before their eyes ballyhoo of a new miracle fiber that was guaranteed to be tough, lightweight and cool and equal to performing as many tricks as a circus seal. This "new wonder fiber" was chronicled as being fit for everything from coarse conveyor belts and heavy rugs to fancy party finery. It could be dyed any shade in the spectrum, tailored and laundered to suit any taste and a herd of hungry moths would starve to death on it. It was called "nottoc." As some of our sharp-minded readers may guess, if they did not already know, this fabric's name was simply the inverted spelling of cotton, and that is what it was.

As reported by *Nation's Business* the hoax carried the sober fact that after "living amid the magical outpourings of laboratory test tubes, the retail chain concluded that good old natural cotton was still King. It remained the principal substance in three-fourths of our

clothing, our socks, shirts, dresses, underwear, pajamas, handkerchiefs and linings of our shoes. It had bloomed into a major material in countless items handy around the home." The typical American family and factory consumes more than twice as much cotton as all other fibers combined.

Home and commercial use has reached an absorption rate of five billion pounds of cotton a year compared to one billion pounds of synthetics and 700 million pounds of wool. After livestock, the magazine points out, cotton is the nation's No. 1 farm product in terms of gross worth, accounting last year, by Agriculture Department figures, for nearly 3.3 billions of dollars, the highest yearly income on record. In the late 1930s the average annual yearly income from cotton was \$778,190,000.

Yet, only 14 years ago, we are reminded, few people would have gambled a nickel on the future of cotton. The depressions had struck it a telling blow, running the price down.

Credit for King Cotton's recall to

the throne of American agriculture and industry is given by the magazine to the National Cotton Council of America, which was formed at Cleveland, Miss., June 15, 1938, when planters, ginners, crushers, merchants, warehousemen and spinners got together for this purpose, on the inspiration of Oscar Johnston, general manager of the Delta and Pine Land Co. 38,000-acre plantation. Under his leadership a group of cotton men decided that lament and self-pity would accomplish nothing and that the time would come for action. Said Johnston: "If the cotton business does not adjust to meet the competition from substitutes it will soon be dead as the dodo."

The council has continuously searched for tips that might raise the status of cotton, maintaining offices in Memphis, Washington and New York with a budget this year of \$1,750,000, mostly raised from participating members with half a million from outsiders materially affected by the welfare of the cotton business. Its four main objectives are sales promotion and publicity, research, studies on costs at all levels and vigil against legislative and trade restrictions.

Research has revealed that chemical treatment can adapt cotton to many uses—waterproofing, resistance to too much sunlight, heat and acid. It has been made effectively fire-resistant. Cotton men are said to be confident that their product, by its very nature, provides them with an ideal weapon for outdoing the wonder fibers. Cotton is still King.—*The State*, Columbia, S. C.

### A Chapter Closing

**BRIDGE** "heart of the hide" **CHECK STRAP**  
Guaranteed to outlast  
all others . . .

Established 1880  
Mfrs. of:  
Leather Belting  
Check Straps  
Binding Straps  
Textile Leathers

Red record cards  
are shipped with  
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prove longer life.

BRIDGE "heart of the hide" CHECK STRAPS are guaranteed to outlast all others because they are made from only heart of the hide leather . . . the finest there is . . . heavy center cut steer hide, specially pre-stretched. ALL BRIDGE Check Straps are cut to your exact measurements.

ORDER A TRIAL LOT — CHECK FOR YOURSELF

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Send us a trial order of ..... quantity BRIDGE hair on "heart of the hide" Check Straps, of the following dimensions—

Length ..... Width ..... Thickness ..... Size of slot .....

Name .....

1/4"

Company .....

Check which

Street .....

9/32"

City ..... State .....

**A**MERICAN citizens may well ponder these indisputable facts: By Jan. 20, 1953, the Truman Administration will have collected 59 per cent of all the federal taxes collected in American history. It will have spent 45 per cent of all the federal money spent in American history. And it will have added \$33 billion to the national debt.

There is little profit in dwelling upon what has been done in the past. But it is vitally important to consider the possibilities of the future. If the next seven years are nothing but a repetition of what the past seven years

have brought, America's story will just about be told. Increase the tax burden through another seven years as it has been increased in the past seven years and the breaking point for the taxpayer will have been reached. Soon his story of seven years of excessive spending and taxes will be a closed chapter in the doom book of the nation. Nothing can be done about it now but pay the bills that have accumulated. But something can be done about the immediate future. What does the new Congress propose to do about it? — *Daily Oklahoman*, Oklahoma City.

### Tragic Irony

THE *Economist* of London is a publication with a world-wide readership. Because of its lively interest in American affairs, its viewpoint is often quite interesting and sometimes quite revealing. With a left-of-center slant, as gauged by American standards, it was much disappointed with the defeat of Adlai Stevenson, and it was especially chagrined at the character of the support he received in some quarters.

No, it was not referring to the fact that practically every crooked political machine in the United States backed Stevenson. It was not referring to the fact that, after making an initial reference to the "mess in Washington," Stevenson accepted Truman's support and defended his corrupt administration.

But states the *Economist*: "It is a tragic irony that so enlightened and intelligent a campaigner as Gov. Stevenson should be indebted for his few crumbs of electoral comfort to a cluster of backward states . . . ."

This statement represents the thinking of most of the so-called liberals of the world today. They view with puzzled contempt the political faction that was kicked in the teeth at the Chicago convention in an effort to force it out of the Democratic Party and kicked in the pants after the election for having contributed the only electoral votes. "Tragic irony" is right.—*Dallas (Tex.) Morning News*.

### Ike And Bob On Taft-Hartley

WHEN Congress convenes on Jan. 13 Senator Taft's bill to amend the Taft-Hartley Law will be ready for introduction. The Ohioan

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### Revolutionary Prufcoat Primer P-50 Makes it Possible to Use Vinyl Coatings Just Like Ordinary Paints

If you want the superior chemical resistance of vinyl base paints, yet shy away from the special application techniques such coatings formerly required, there's real news for you in Prufcoat Primer P-50.

With this amazing new inhibitive primer, you now can use vinyl coatings just like ordinary paints: (1) Prepare the surface by simple routine methods such as wire-brushing; (2) Apply heavy-bodied Prufcoat Primer P-50 by brush or spray, just as you would red lead; (3) Then make your vinyl top coat application in a matter of hours.

On old or new metal, this quick, easy "Prime and Paint" procedure eliminates all danger of underfilm failures as well as providing positive primer-to-surface and vinyl-to-primer adhesion. It's a revolutionary, simpler vinyl system that licks the toughest corrosion problems, while slashing hours off labor time . . . dollars off painting costs.

But that's only part of the story. Prufcoat Primer P-50 fills the same need for controlling underfilm corrosion and assuring positive top coat adhesion, whether a heavy-duty vinyl coating or a conventional paint finish is to be applied . . . a unique "one-primer-for-all-finishes" advantage that means important additional savings.

Yes, Prufcoat Primer P-50 can save time, trouble and money . . . throughout your plant . . . as well as in your most difficult corrosion areas. For the full story, send for Prufcoat Technical Bulletin No. 015. Or better still, get a trial quantity of Primer P-50 along with some "A" Series Prufcoat vinyl coating and see for yourself under your own plant conditions. Act today!



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- ✓ The first completely practical primer for vinyl coatings.
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#### WHAT OTHERS ARE SAYING

has instructed his Washington staff to re-draft the list of amendments he rammed through a Democratic Congress in 1949, only to have them defeated in the lower house.

Contrary to dire warnings issued by Fair Deal Democrats and the labor hierarchy during the campaign, none of these amendments will be "punitive."

They are not designed to "wreck" or "stultify" the unions. Brief outlines

now available indicate that Senator Taft intends not only to clarify the act, and to improve it, but to purge it of certain provisions that have been anathema to organized labor.

One of the major tenets of the union creed is that "the worker has as much right to his job as a stockholder to his share." This is a debatable question—and one with which Senator Taft does not find himself in agreement. But President-elect Eisenhower, during his recent campaign, specifically endorsed the stand of the unions, that

strikers who have been replaced by new workers should not be banned from voting in National Labor Relations Board elections, as provided by Taft-Hartley in its present form. As a concession to Eisenhower, Taft will go along and advocate the change desired by the unions.

Labor has also consistently opposed the T.H. provision making the non-Communist oath mandatory—for union officials before their unions are recognized by the N.L.R.B. Taft's proposed amendment would impose the same requirement on employers of union labor.

But amendments intended to make the act more equitable so far as employers are concerned, also are in prospect. Restriction of "secondary boycotts" would be tightened. The term "foreman" would be re-defined, to end confusion under the present law and exclude from collective bargaining only those employees who actually perform management duties.

One amendment almost certain to arouse opposition among union officials would provide for more rigid supervision of union welfare funds by the Secretary of Labor. Actually this change may be welcomed by the rank and file as a "double check" on the huge funds made possible by their contributions.

General Eisenhower intends to call a conference of union and management officials to discuss changes proposed by both sides, including proposed amendments of the section dealing with injunctive powers intended to delay walkouts in major industries essential to the defense and welfare of the nation.

The unions' position *vis-a-vis* Washington will, of course, be radically altered. No longer will they be assured of pro-union bias at the White House level. Eisenhower has made it plain, during and since the campaign, that he intends to consider the problems of industry impartially and in relation to the national interest, with no special privileges for either side.

It should be encouraging to both unions and management that Mr. Taft and the President-elect see eye-to-eye on this matter. — Richmond (Va.) *Times-Dispatch*.

One reason you can't take it with you these days is because it is gone before you are.—*Commercial Appeal*, Memphis, Tenn.

## NON-FLUID OIL

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NON-FLUID OIL is by far the most widely used lubricant in the Textile Industry . . . and no doubt is the most imitated product in the textile lubrication field.

Because of this, we caution against use of grease mixtures sold as being the equivalent of NON-FLUID OIL, or so-called viscosity type oils which will not remain in or on the bearing. It makes little difference from whom purchased, they all have the same drawback of failing to give positive lubrication on split second demand and are messy and wasteful.

NON-FLUID OIL provides cleaner and better lubrication at less cost per month. Write for free sample and descriptive bulletin.

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NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly in use.

## The Cry Is Familiar

THERE was never any reason to hope that the New England industrialists would abandon their fight for special treatment in the parceling out of defense contracts, despite earlier setbacks. The current clamor from Boston is just a preliminary rallying cry for a renewed campaign.

There's nothing new about the charge, now warmed over and served in style by the New England Governors Conference, that lower wages and bigger work loads are the principal reasons why textile plants are moving South. That is designed to brand the Southern mills as "unfair competitors" and support the Northern claim for textile orders on a selective, rather than a low-bid basis.

Southern leaders should not be deceived into thinking that the familiar tone and recent failure of the attack will destroy its effectiveness, however. The battle is rejoined under changed conditions. Deep South political leaders who helped stave off the contract handouts have lost, along with their committee chairmanships, a good deal of their influence. Unless there is a constant alert and a unified resistance, the outcome this time could be different.

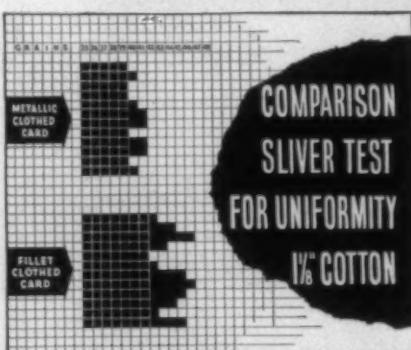
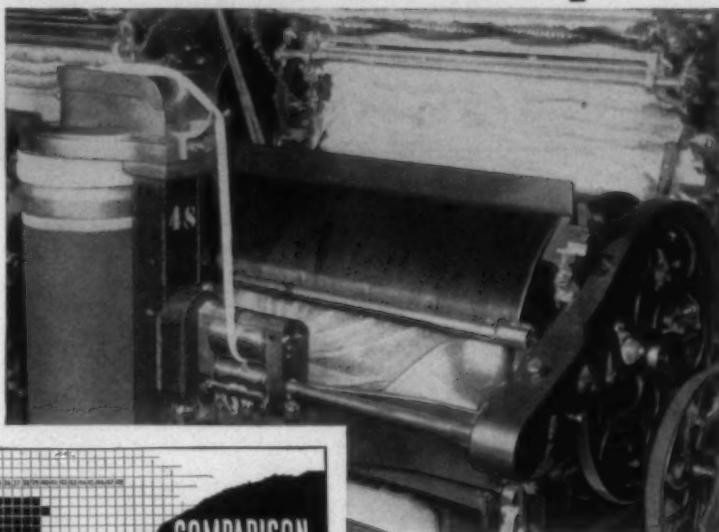
More than that, the charge has its element of truth. Wage rates and work loads in the South are more favorable to industrial operations, largely because neither Southern industry nor labor has ever completely surrendered to the shortsighted grab for higher and higher pay by some of the union nabobs.

But, as Textile Publisher David Clark declares in a recent statement, that is not the primary factor, nor even a major factor, in the Southward shift of industry.

We have noted, from time to time, what we consider the impelling forces. They include abundant water and power, the productivity and availability of workers, the plentitude of low-cost sites, the emergence of a sizeable Southern market, the favorable tax structures, the natural resources of the region, the climate.

There may be other reasons. But as Mr. Clark points out, Southern industrial growth has not consisted in great degree of the transfer of equipment and machinery that many of the New England operators have allowed to become outmoded, but in the com-

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**RECLOTHING YOUR  
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When cotton type cards are clothed with Proctor Metallic Wire the sliver obtained is uniform in weight and quality. Because of the self-stripping feature of the clothing, the card is always clean resulting in a continuous uniform sliver. With conventional card clothing the card must be stripped frequently. After stripping the clothing immediately begins to fill up and weight and quality of the sliver begin to vary. In a comparison sliver test for uniformity 1 1/8 cotton—shown graphically—the variance in the weight of the sliver from the fillet card is quite obvious—as against the uniformity of the sliver from the metallic clothed cards.

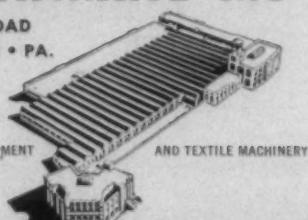
A new Proctor sound, color movie entitled, "Modern Cotton Carding" clearly demonstrates the advantages of Proctor metallic clothing. It also describes the service offered by the Proctor reclothing branches conveniently located in textile centers. It is in these shops that conventional cotton cards can be quickly reclothed with Proctor Metallic Wire.

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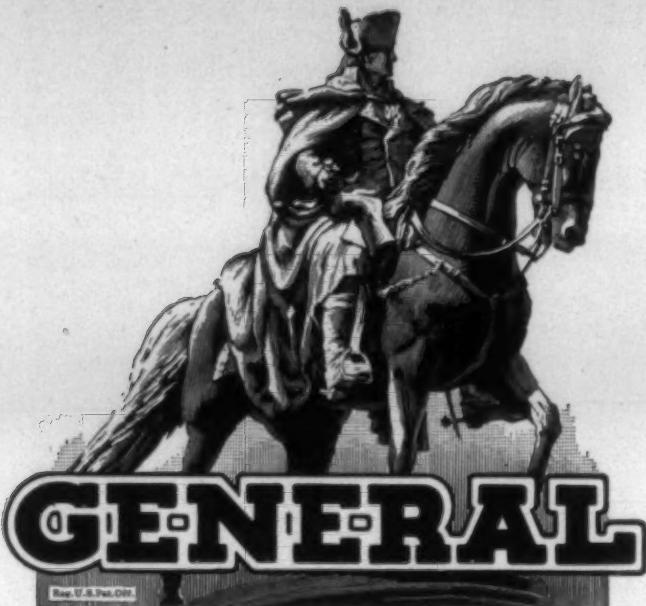
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#### WHAT OTHERS ARE SAYING—

plete development of modern plants and factories equipped with the latest and most efficient units of equipment that have been turned out by the industrial designers. If New England is really looking for the cause of its competitive virus, it might find the bug behind the cobwebs.

Not that the facts are sufficient to win the continuing fight. The Governors Conference itself is a creative inspiration of the 1,000 member New England Council, comprised of business, industry, and labor leaders who are determined to win at any cost. In such a struggle, the formula is one of political intrigue supported, on occasion, by a wee bit of bombast. The latter is now in progress.—*The Charlotte (N. C.) Observer*.

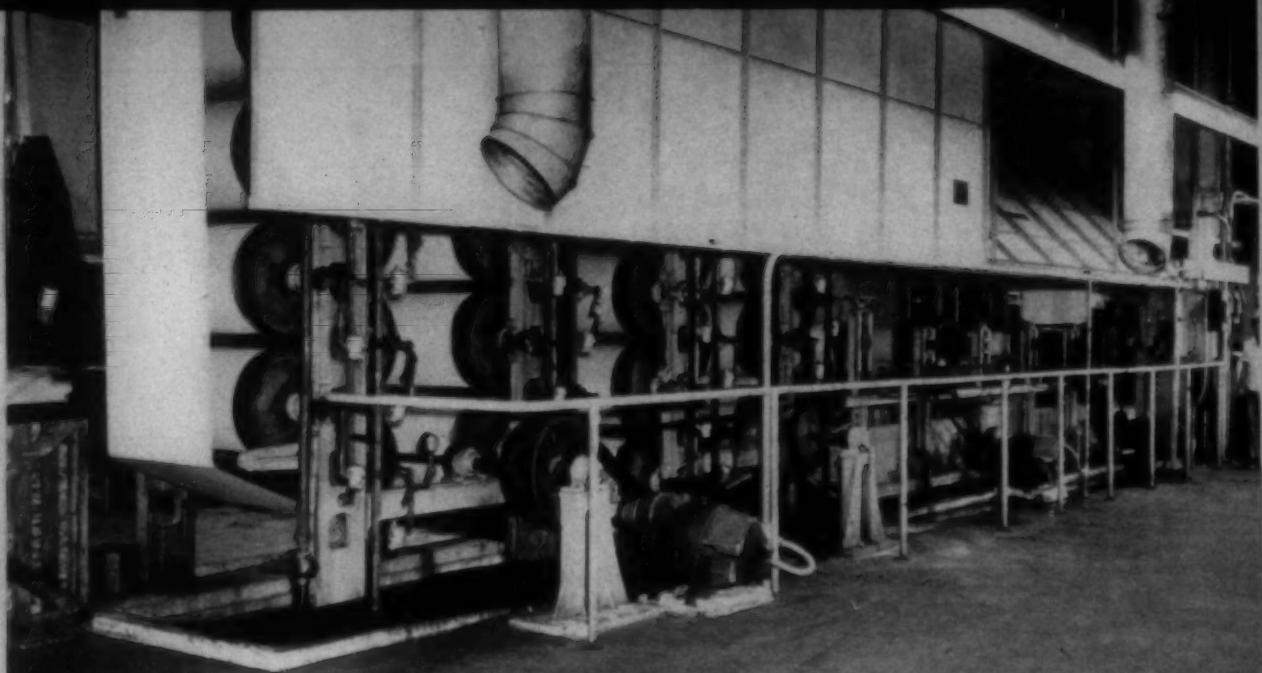
#### Why Move South?

AN OLD controversy flares again with the issuance of a report by a New England Governors Conference on reasons why the textile industry is migrating to the South.

As usual, the primary cause is said to be allegedly higher work loads and smaller wages in the South, as compared with New England. Nothing is said about the lower costs of living or the better working conditions which prevail in most Southern sections as compared with their Northern counterparts. The South has become the land of the new and modern industrial plant, not only in the field of textiles but in many others. As a result of construction during the past decade, the average Southern mill or factory worker goes about his task today under far more pleasant surroundings than does his colleague above the Mason-Dixon Line. Labor problems therefore arise less frequently.

Moreover, the South is of course actively seeking new industries, through such organizations as South Carolina's Research, Planning and Development Board and others. Only recently the Southern Association of Science and Industry announced a ten-point program of broad regional objectives designed to carry Dixie to unprecedented achievements in business, technology, and agriculture. In contrast, New England, with an economy which has been governmentally favored during much of the past century, has fallen into a rather smug acceptance of what is has

# There's more to CORROSION than meets the eye



## Sometimes VISIBLE... Often HIDDEN... Corrosion Strikes in Every Plant

This year, the Textile Industry will pay millions of dollars for needless losses created by corrosion... yet much of this corrosion may never be discovered until it's too late to protect—and time to pay!

Corrosion is readily detected when it appears as rust layers or failing paint on exposed surfaces. But, by far, the major costs of corrosion come from hidden areas—where only minute inspections and constant care can prevent costly failures.

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Don't wait for rust or other visible signs to appear. Visible or hidden, corrosion will destroy costly equipment... halt production... cause unnecessary maintenance shutdowns... and threaten product quality. Thus, corrosion dips deep into your profits as it creates needless losses totaling thousands of dollars.

### YOU CAN PREVENT NEEDLESS WASTE

Check your plant for corrosion's presence. Double-check areas that may be vulnerable to *hidden corrosion*. If you would like help, an AMERCOAT Field Engineer will gladly assist you in making a thorough analysis. There is no obligation.

#### What is AMERCOAT?

AMERCOAT is a method of corrosion control. Not just a single product, but a complete LINE of coatings, individually formulated to solve or control specific industrial corrosion problems.

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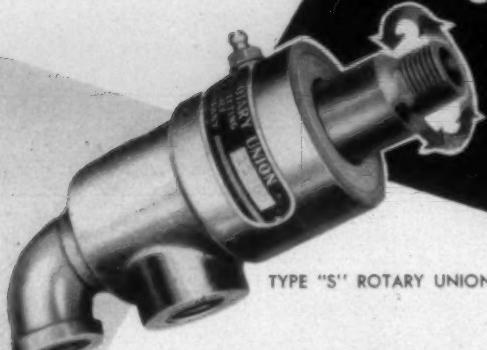
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### WHAT OTHERS ARE SAYING—

regarded as its privileged position. Its threatened loss naturally brings a rude awakening.

The committee chairman, Prof. Seymour E. Harris, Harvard economist, is on weak ground when he says that possession of congressional chairmanships by Southern congressmen has been a major factor in the South's economic rise. On the contrary, the explanation lies largely in intelligent planning, hard work, and observance of the law of comparative advantage, an economic principle with which Congress has nothing to do.—Greenville (S. C.) News.

### The Textile Migration

NEW England has just completed a study of why that section has lost and continues to lose her textile industry to the South.

The survey committee apparently has come up with no new information. It concludes that the Southern manufacturer has a favorable wage differential and that the Southern industry is not highly organized like the workers in New England. This has been the complaint of the New England area since the migration began.

Other groups have also studied this situation. Some of their findings should be interesting to compare with the conclusions of the New England survey group. One of the latest studies we recall pointed first to the initiative and productive capacity of the Southern textile workers as the first and foremost reason for the continued concentration of this industry in the South.

The group making this study placed little emphasis on wages, concluding that the differential has been narrowed to the point that there is actually little difference. This same group did emphasize the fact that the Southern plants are newer and that the Southern manufacturer has constantly attempted to keep his productive equipment in top condition. In contrast with this, many New England plants have not kept abreast of the latest developments in this field and the modernly-equipped plant is the exception rather than the rule. The results of this study make an interesting comparison to the just-released New England study.—Spartanburg (S. C.) Journal.

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Washing.....	3-4
Perspiration.....	5
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**"she might  
have been my kid..."**

**T**here was no time to stop, see? She comes running out from behind this parked car right under my wheels. Her hair is in pig-tails, and with the sun shining on it, she might have been *my kid*. We got her to the hospital. It took 3 pints of blood to bring her around. All I have to do is remember the sound of those screaming tires—and I know

why *I'm giving blood.*"

Yes, all kinds of people give blood—truck drivers, office workers, salesmen. And—for all kinds of reasons. But whatever *your reason*, this you can be sure of: Whether your blood goes to a local hospital, a combat area or for Civil Defense needs—this priceless, painless gift will some day save an American life!

**Give Blood Now**  
**CALL YOUR RED CROSS TODAY!**  
**NATIONAL BLOOD PROGRAM**



**Business Executives!**

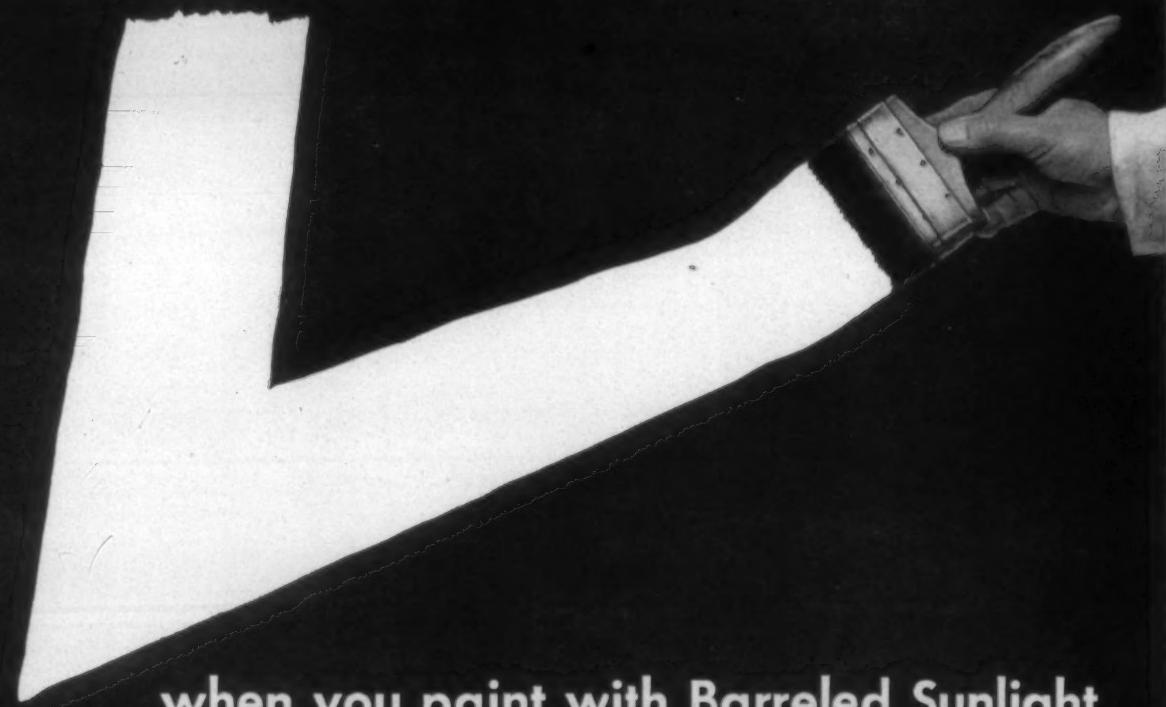
**✓ Check These Questions!**

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- Have you given your employees time off to make blood donations?
- Has your company given any recognition to donors?
- Do you have a Blood Donor Honor Roll in your company?
- Have you arranged to have a Bloodmobile make regular visits?
- Has your management endorsed the local Blood Donor Program?
- Have you informed your employees of your company's plan of co-operation?
- Was this information given through Plant Bulletin or House Magazine?
- Have you conducted a Donor Pledge Campaign in your company?
- Have you set up a list of volunteers so that efficient plans can be made for scheduling donors?

Remember, as long as a *single* pint of blood may mean the difference between life and death for *any* American . . . the need for blood is *urgent!*

# Right You Are—



## when you paint with Barreled Sunlight

**Whether you're color minded or cost conscious a Barreled Sunlight Paint Job is Engineered exactly to your needs**

Color-minded executives prefer Barreled Sunlight "Engineered Color" because it provides a practical, down-to-earth color plan that improves lighting and seeing conditions and is custom tailored to the special needs and conditions of each individual plant or building.

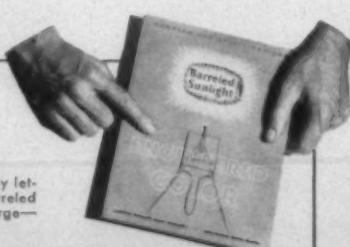
Cost-conscious executives know from experience that Barreled Sunlight Maintenance Paints are specialized finishes, especially built for rugged, heavy duty service. They know they go further, hide better and are easier to apply — which means not only worthwhile savings in material, but also important savings in labor, which today accounts for at least 80% of total painting costs.

Yes, whether you're color minded or cost conscious you can do the job better and at lower cost with famous Barreled Sunlight. The next time you paint call in your

Barreled Sunlight representative. Let him recommend the colors and finishes which will give you a better looking, longer lasting paint job at lower cost for both material and labor.

**Write for this Helpful Booklet**

For full information on Barreled Sunlight Maintenance Finishes and Barreled Sunlight Engineered Color send today on your company letterhead for this fact-filled Barreled Sunlight Catalog. There's no charge—and no obligation.



**BARRELED SUNLIGHT PAINT COMPANY**

5-L Dudley St., Providence, R. I.

**Barreled Sunlight**  
*Paints*®

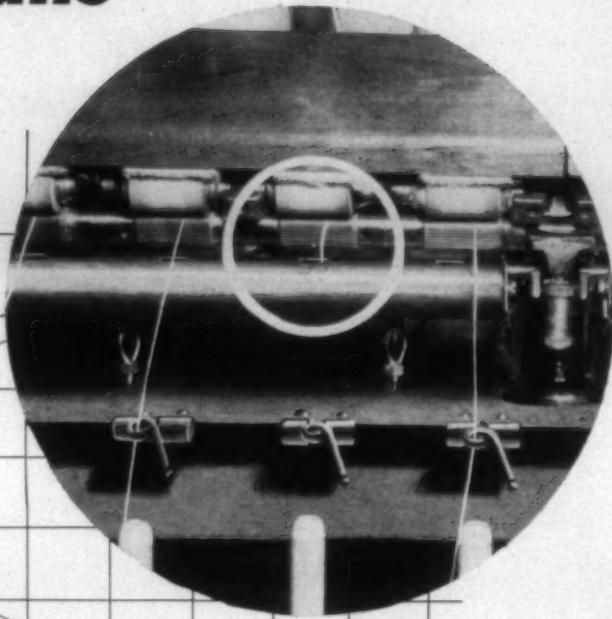
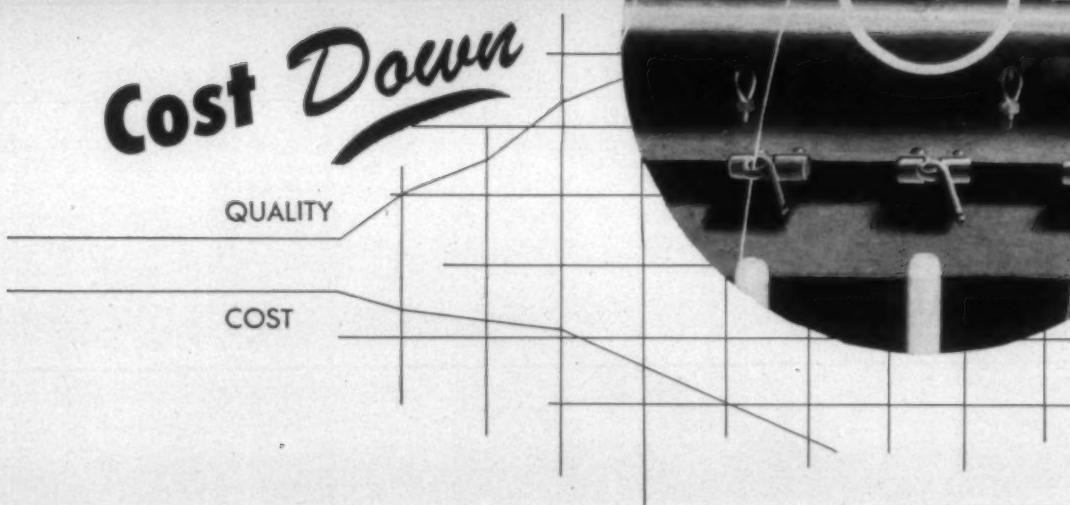
In whitest white or clean, clear, wanted colors,  
there's a Barreled Sunlight Paint for every job

For over half a century those who know the best in paints . . . for all types of buildings . . . have strongly insisted on famous Barreled Sunlight

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*Quality Up*

*Cost Down*



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A mill spinning combed yarn reports elimination of 90% of slubs caused by flying lint. A South Carolina mill group spinning 30's reports 40% reties on spoolers and a reduction of 40 ends down per thousand spindle hours. A mill spinning blends says "seconds decreased to an all-time low," . . . another mill says "improved quality of goods alone will pay for Pneumafil\*."

Pneumafil\* cuts costs. You get more pounds of yarn from raw stock, more yarn production per frame per hour, and more production per man hour.

Pneumafil\* is the best investment you can make.

*. . . for All Types of Spinning*



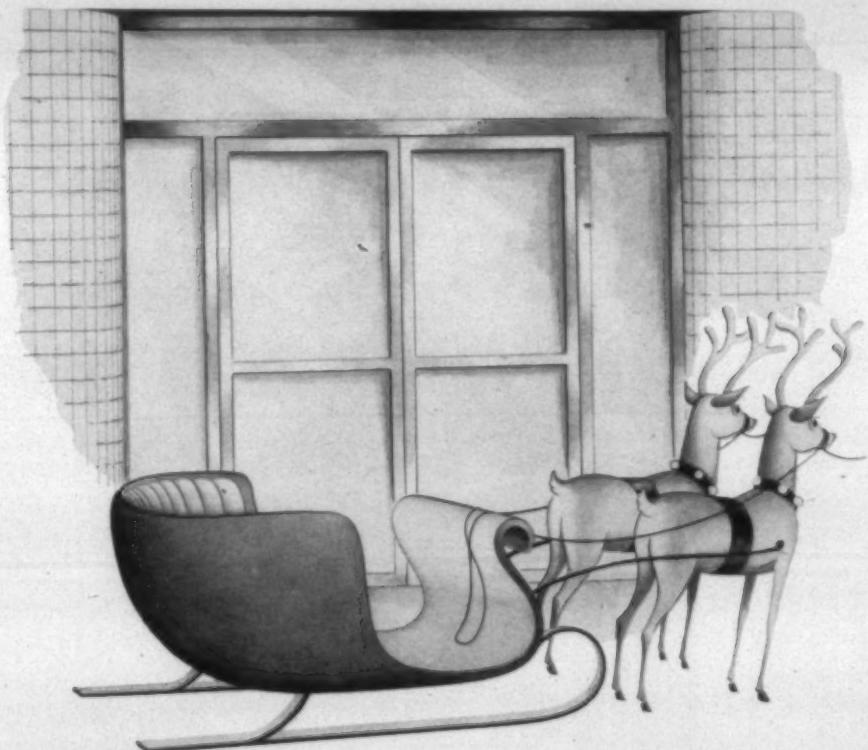
**CORPORATION • 2516 Wilkinson Blvd., Charlotte, N. C.**

Sales Offices: Boston — Atlanta

\*Trade Mark

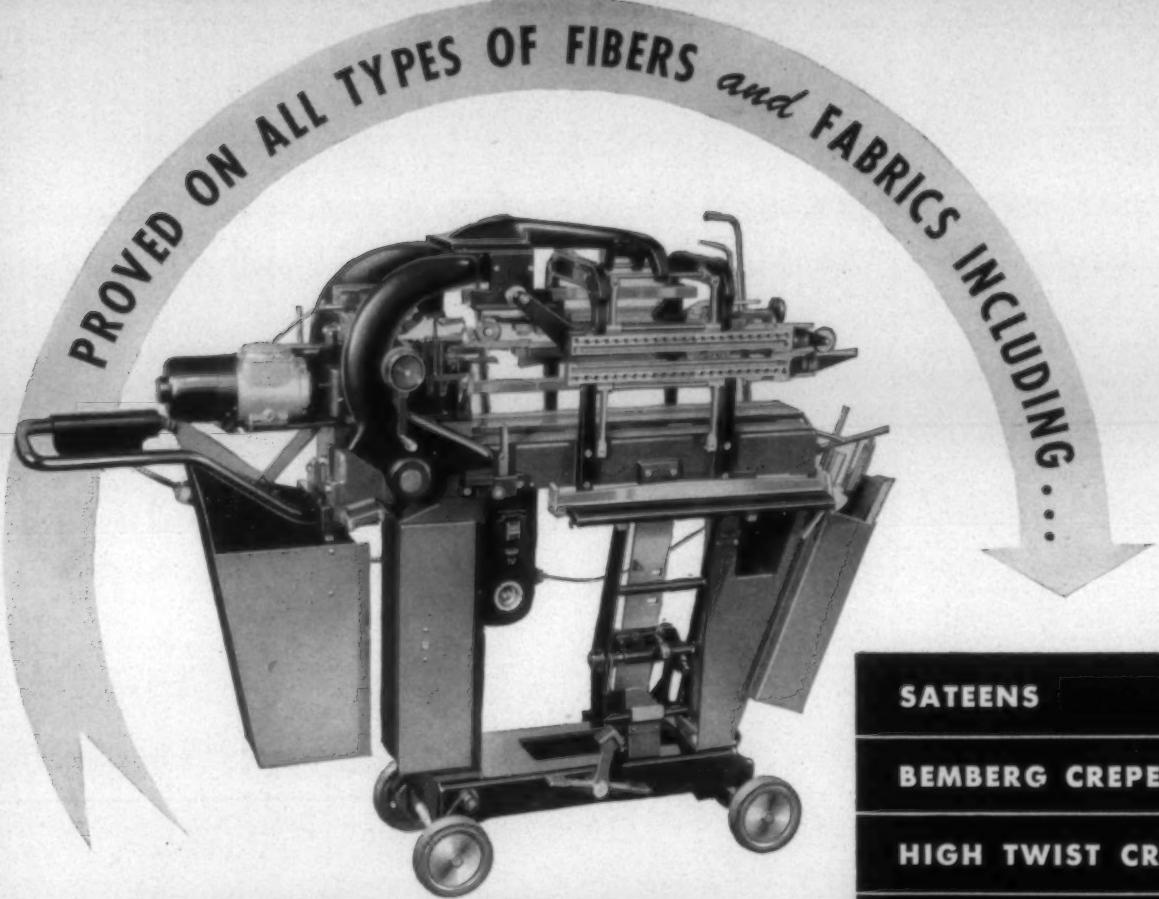
# BURLINGER

ENGINEERING COMPANY, INC.



## Where's Santa?

*(Confidentially, he's inside trying to buy more of our  
new PRESSURE BLEACH, BOIL-OFF and DYE MACHINES!)*



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Small mills as well as large mills have proved the economy of Barber-Colman Portable Warp-Tying Machines. In the 45 years since Barber-Colman Company first introduced machines of this type, a succession of constantly-improved models have demonstrated their efficiency on all kinds of yarns and materials, some of which are listed here. Users of Barber-Colman machines are served promptly and skilfully by an alert service organization of wide experience, to insure best operation and minimum down time. Both now and in the future Barber-Colman Portable Warp-Tying Machines can be valuable to you.

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- WARP TYING MACHINES • WARP DRAWING MACHINES

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Here's how you can  
**INCREASE** the **AMOUNT** of **SLIVER**  
 in coiler cans

GOSSETT technicians were among the very first to come up with a practical, sure way to greatly increase the amount of sliver per can . . . and do it at a moderate cost.

**HERE'S HOW**

We'll convert your 10" and 12" comber and card coilers to 14" or 15" and drawing frame coilers to 14" in diameter and to 36" or 42" in height. Just imagine what this will do to increase the amount of sliver per can! What's more, and as the photograph shows, you'll get a perfect lay of sliver in the can.

The GOSSETT MACHINE WORKS has already converted the coilers in a number of leading Southern textile mills. Records show a very substantial increase in the amount of sliver per can. It will pay YOU to look into this amazing innovation.



**Note this:** We show here the percentage increase of sliver when a conversion is made. Take, for example, a 12" x 36" coiler. We'll convert it to any one of the following sizes and here is what you'll get:

Up to This Size	Percentage of Sliver Increase
14" x 36"	60% to 65%
14" x 42"	100% to 105%
15" x 36"	100% to 105%
15" x 42"	120% to 125%

This shows the perfect lay of the sliver in can after coiler conversion from a 12" x 36" size to a 15" x 42" size.



This coiler was converted from a 12" x 36" size up to a 15" x 42" size, increasing the amount of sliver in can by 120% to 125%.

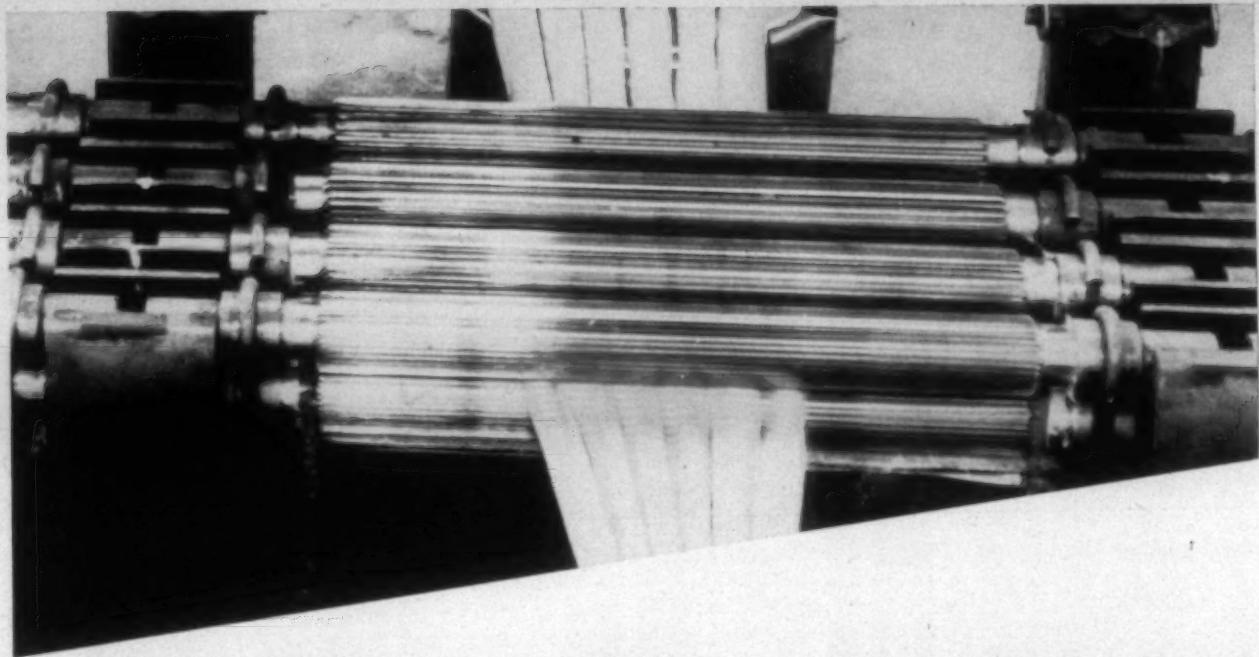
**What we do with COILERS**

1. We convert 10" and 12" comber and card coilers to 14" and 15" and drawing frame coilers to 14" in diameter and to 36" or 42" in height.
2. We manufacture all sizes of coilers for all makes of combers, cards, and drawing frames.
3. We manufacture parts for all sizes and makes of coilers.



I. B. W. GOSSETT, President  
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## *Ideal High Speed Ball Bearing Drawing Rolls Cut Drawing Costs*

**Original Cost**—Two Ideal Drawing Roll units outproduce three conventional ones. They cost you less to buy.

**Less Maintenance**—You need fewer operators to tend Ideal Drawing Rolls, because there are fewer rolls to tend. They require less attention per unit because their hardened and ground fluted rolls never nick or burr to cause ball ups, and because they are **permanently** aligned and synchronized.

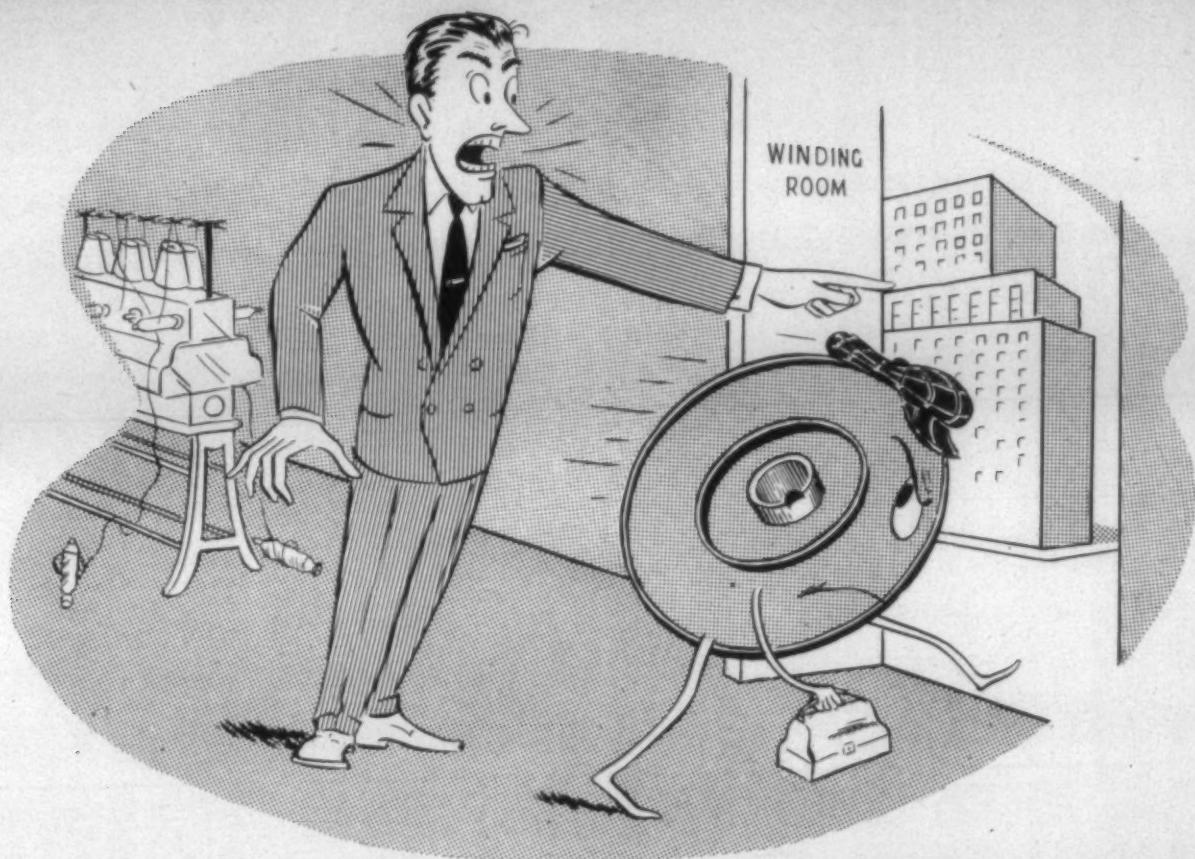
Ideal Construction also eliminates 90% of the usual costly job of taking down, cleaning, reconditioning, scouring, removing burrs, and oiling.

Ideal Drawing Rolls also improve quality and increase production. When the Eveener Motion, which was shown at Greenville, is in production it can be added by simply substituting it for the back top roll.

Get full information on Ideal High Speed Ball Bearing Drawing Rolls before you replace a single unit in your mill.

**Ideal Industries, Inc.  
Bessemer City, N. C.**

Cuts  
Drawing  
Cost



## Get rid of this "Saboteur of Profits"

A builder wheel is basically unsound when winding filament yarns, because it determines the lay of the yarn on the bobbin by contact with the yarn and can cause broken filaments. A builder wheel is a "saboteur of profits" It can be responsible for excessive loom stoppage and fabric seconds.

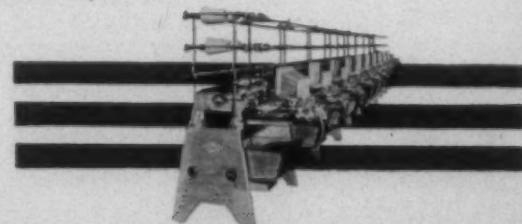
The Foster-Muschamp Autofill, a fully automatic machine for winding filament yarns on filling bobbins, does not use a builder wheel. It uses a set of gears (which do not contact the yarn) to lay the yarn on the bobbins in a predetermined and precise arrangement. Thus all bobbins are uniform and deliver in a uniform manner from the shuttles. Broken filaments, tight picks, broken ends and fabric seconds are greatly reduced.

If you have "saboteurs of profits" in your winding room, find out more about the Foster-Muschamp Autofill Winder. Send for Bulletin M-1 (no obligations).

**FOSTER MACHINE COMPANY**  
WESTFIELD, MASS.

*Southern Office, Johnston Bldg., Charlotte, N. C.*

**FOSTER - MUSCHAMP  
AUTOFILL WINDER**





# WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Eisenhower and his new aides are moving fast to pick up the controls of government without delay or confusion. Each top official who has been selected is already in contact with the job, and generally taking part in decisions. Controlling policies are taking form; there are frequent conferences between outgoing and incoming officials. Truman is co-operating, and wants the transition made without jolts or hitches.

One of Eisenhower's first official acts is expected to be the removal of the "black out" on public information at all levels of the government. This controversial ban was imposed in September, 1951, and gave non-military department heads the authority to withhold all documents and information that might be classed as "secret" or "restricted."

The incoming cabinet will establish a new atmosphere in government toward business and banking, and the country's economy. Businessmen look for elimination of "socialism in government," and substitution of positive and constructive steps to solve economic and fiscal problems. They will get more attentive hearings than has been their lot.

G.O.P. leaders are warning Eisenhower to move promptly to consolidate his party gains in the Southern states. He is urged not to delay in defining his formula on patronage in the South between Republican groups and the more powerful Democratic forces who supported him with votes. Republican leaders have told him the Democrats traditionally close ranks after defeat, and renew their feuds only when they return to power.

Democratic leaders are confident the instant they get Truman out of Washington the pendulum will begin to swing in their favor. They expect to regain control of Congress in two years, and that the swing of the Southern states to Eisenhower will prove to have been only a repudiation of Truman.

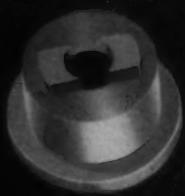
Loss of Democratic control of Congress, says top-ranking Jere Cooper (D., Tenn.), of the Ways and Means Committee, was due to reapportionment. He points out the Southern states lost several House seats to Northern and Western states after the 1950 census. Each seat thus lost was won by a Republican in the election. House membership is limited by law to 435.

Southern Democrats in both branches are molding their ranks into a powerful bloc within the party, and are already its strongest segment. They construe the election as making clear to "left wing" groups that they cannot be taken for granted, and must be consulted in the future. They will not again accept the role of orphaned step-children in the Washington pattern.

Every indication is that one of Eisenhower's hardest crack-downs will be on Communists in government. Without "witch-hunting" methods, the personnel in strategic and sensitive positions will be subjected to thorough loyalty checks. Known Communists, and persons attached to "front" groups, will go out.

Eisenhower has a "fixation" against ambassadors and diplomatic agents who qualify only by social status or campaign contributions. He let it be

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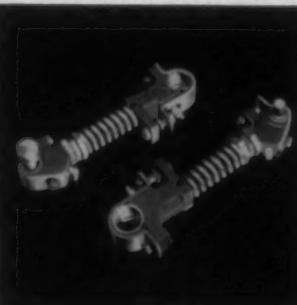
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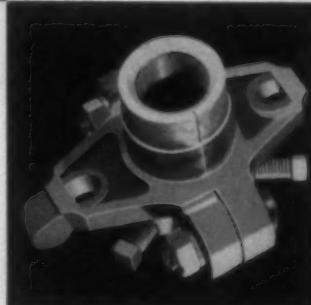
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known he will select only men who are experienced and have wide knowledge in the country's foreign affairs. The State Department is slated for the most thorough and sweeping changes of any government branch.

Improvement in mail service is in prospect under new Postmaster General Summerfield, who will seek authority of Congress to reorganize the department. He intends to cut down duplication and over-staffing in personnel. He has in mind to return to normal mail deliveries, and to put back pre-war mail boxes on street corners.

In Korea Eisenhower became aware this stalemated war cannot be ended by any means now in sight short of withdrawal or new war virtually on the scale of the Japanese war. Chinese Communists are unwilling to accept blame for starting the war. Eisenhower knows Europe cannot be stocked with our gifts of arms so long as Korea holds the germ of major, all-out war for the U. S.

Eisenhower found he faces the same problem in Korea that MacArthur did, but has the advantage of being top boss. When MacArthur realized the problem in its exact proportions, and advised accordingly, he was recalled at Atcheson's instigation. Now, after nearly two years of stalemate, Eisenhower finds he must deal with the matter at virtually the point where MacArthur left off. There's every sign of the war continuing, with a hope, of course, that, somehow, a solution will come into sight.

Futility of producing weapons to turn over to other countries, which might become obsolete, will weigh heavily in new spending proposals in the House. Chairman Taber of the spending committee contemplates new emphasis on stockpiling machines and tools for ready use in an emergency. House Republicans intend to turn a deaf ear to big lots of finished weapons given free to countries which may or may not use them if war comes.

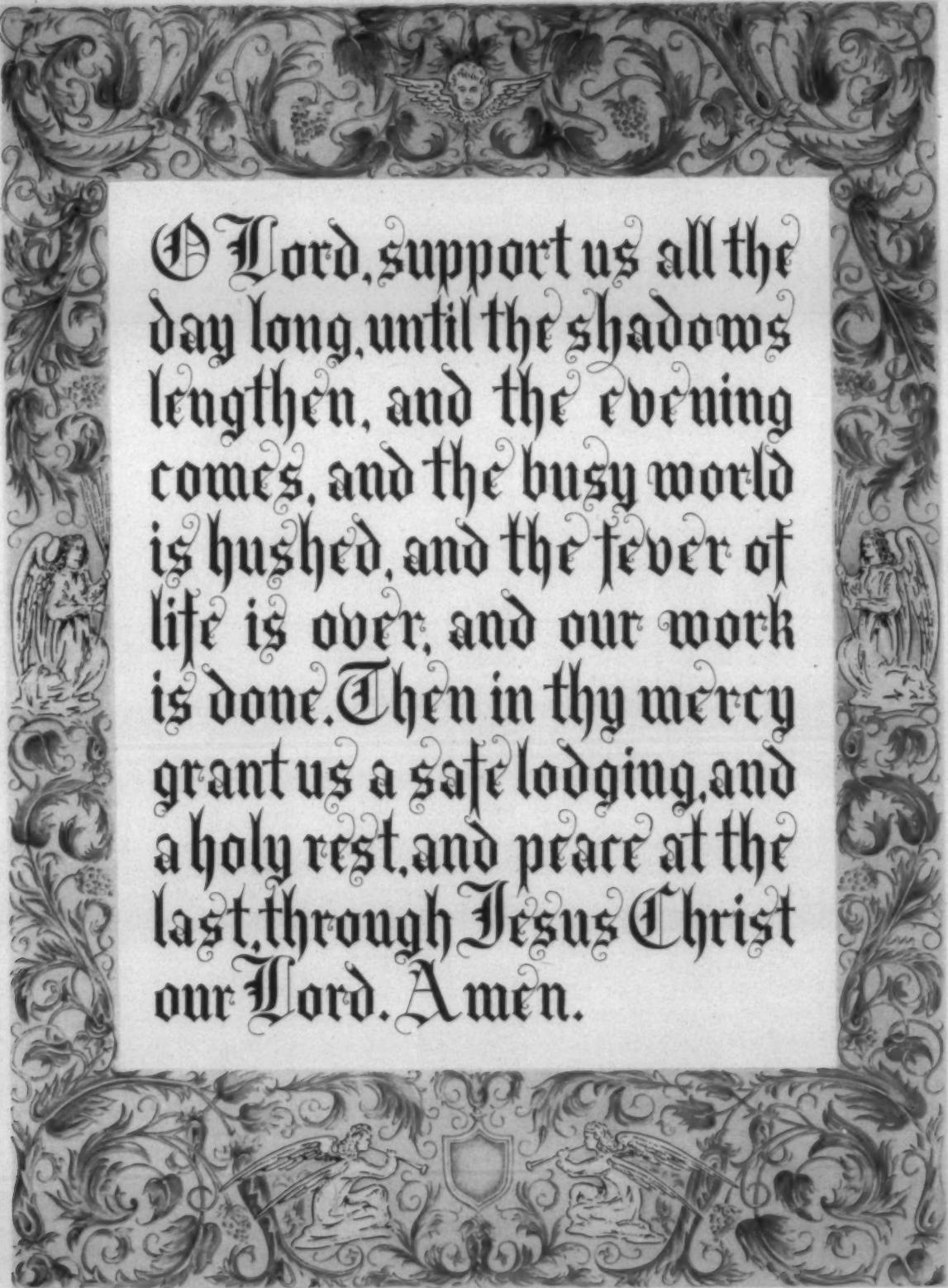
Taft forces feel keenly the choice of some of Taft's outspoken opponents for high cabinet and other posts. Among these selectees are Wilson, Lodge, Aldrich, Dulles, Stassen, Weeks, Brownell, Durkin and Mrs. Hobby. No close Taft ally was put into any post in the initial arrangement. Taft burst into an open protest when Durkin was named to head the Department of Labor.

Taft will serve as chairman of the Senate Labor Committee, and again propose amendments to the Taft-Hartley Law. He is adamant that Morse of Oregon must get off this committee, where he has invariably voted, say Taft aides, with the Democratic members on every major issue. He was a member of the Humphrey-Murray-Morse group investigating the textile industry in the South three years ago. Taft claims that retention of Morse would continue to give the Democrats a controlling majority on the 13-man committee.

Thomas E. Shroyer, who acted as Taft's legal counsel on the labor committee, has resigned to enter law practice in Washington. He was counsel for the Ball "watch-dog" committee, and was the author of the Taft-Nixon report, in opposition to the Humphrey-Murray-Morse report, on "outrages against unionists" in Southern textile centers in 1949 and 1950.

Basic principles of the Taft-Hartley Law will not be changed by amendments contemplated by Senator Taft. One change would require company officials to make non-Communist affidavits. The other one to come up would remove the ban on voting in a representation election by strikers who have been replaced in their jobs. Taft said he will not seek a ban now on company or industry bargaining on a nationwide basis.

Some other amendments to the labor law are under consideration, but will not be taken for some time. One would strengthen the section on secondary boycotts. A new definition of "foreman" would make certain those who



O Lord, support us all the day long, until the shadows lengthen, and the evening comes, and the busy world is hushed, and the fever of life is over, and our work is done. Then in thy mercy grant us a safe lodging, and a holy rest, and peace at the last, through Jesus Christ our Lord. Amen.

It is our fervent hope that there may be peace on earth and forever afterwards good will among all nations.      Dillard Paper Company

are excluded from bargaining are a part of management. A third amendment would clarify relations between the general counsel and N.L.R.B., and a fourth would give the Labor Department supervision of union welfare and pension funds.

Basic principles which Taft says must remain in the labor law are those to which some union leaders have voiced loud objections. The five of them are: (1) the right of free collective bargaining without government dictation, wage fixing or compulsory arbitration; (2) right to strike except for the 80-day waiting period in emergency disputes; (3) responsibility of both sides in carrying out contracts; (4) prohibition of unfair labor practices by either management or labor, and the ban on the closed shop; and (5) protection of the right to work.

W.S.B. Chairman Cox resigned within hours after Truman gave approval to the wage increase of \$1.90 for the coal miners. Other industry and public members had said previously they would resign if their finding of \$1.50 for Lewis was overturned. Truman said in approving the increase he was trying to save Eisenhower from a coal strike. W.S.B. members had a different opinion.

W.S.B. will officially go out of business on April 30, unless it blows up and falls apart before that time. It is probably the last of its kind unless there is another war. It had its genesis in the unwillingness of union leaders to work under a dual price and wage control provision.

Trygve Lie warned his close-mouthed U. S. employees to answer the McCarran Committee's questions after learning the Senate might cut down on U. N. funds. Most of the balky U. S. employees, who refused to say whether they were Communists, decided to allow Lie to fire them. Members of the committee think they have scarcely given a pin prick to Communist espionage and conspiracy carried on within the U. N. staff.

Senator McCarran will press for early action on his proposed constitutional amendment to prohibit changing domestic law by treaty. He points out the State Department has interpreted the treaty-making power as covering what the Constitution does not forbid, and that there is no longer any real difference between domestic and foreign affairs. McCarran says under these claims any domestic law can be changed or repealed under terms of a treaty or action taken under the U. N. charter.

The big back-log of unspent appropriations in the hands of some agencies will get a severe going-over by Taber's spending committee of the House. He says Congress has been giving most of these agencies far more money than they needed or could spend. The committee will reclaim the unspent sums, and make cuts in new proposed grants.

Severe slashes in the number of employees in the multitude of department and independent agencies are expected in both branches of Congress as spending bills come up. Senator Dworshak (R., Ida.) says at least 200,000 workers can be dropped as unneeded or representing only duplication and payroll padding in various agencies. The heaviest cuts are in prospect in the armed services.

Searching scrutiny of 20 years of New Deal rule when the Republicans regain control of Congress seems certain. Plans are being made to turn the spotlight on activities not before touched, with emphasis on charges of corruption, favoritism and waste.

Sweeping cuts in the funds for the Mutual Security Agency are being made in initial estimates of next year's spending. It is pointed out that \$9.2 billion has been given as military aid abroad since the start of 1949, and another \$7.5 billion is contemplated for next year. But the recipient countries have produced very little arms; some of them none at all.

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dyeing, jig dyeing or circulating machines, "Albone" 35 baths conserve time and material. There is little bleed-off in the oxidation bath—therefore, no necessity for changing the bath between runs of different shades. Bath maintenance is easy, whatever the fiber—cotton, viscose rayon, silk or wool; whatever the form—raw stock, yarn or piece goods.

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# textile bulletin

PUBLISHED MONTHLY BY

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## New England Bellyachers

We had, and still have, a great admiration for the New England cotton manufacturers of 30 to 50 years ago.

They were a fine group of hard-headed, hard-working and successful men who built the industry to the point that there were over 21,000,000 spindles in New England and they made money for themselves and their stockholders.

Becoming prosperous, many of them, although they had never themselves attended college, sent their sons to Ivy League colleges and then in the 1920s, many having reached a mature age, passed on.

They left widows and Ivy League college sons, who had become accustomed to a high scale of living from dividends paid by the mills when well managed.

As machinery of the cotton mills began to wear out or become antiquated, mill managers pleaded for funds with which to modernize the equipment and be able to maintain efficient operations, but the widows and the Ivy League college sons were unwilling to forego the dividends which maintained their standard of living and they seemed unable to realize that modernization, which would maintain efficiency, would also mean that there would be dividends in future years.

Just about that time, that is, during the 1920s, labor union racketeers secured a strangle-hold upon the cotton mills of New England and the racketeers found that in order to keep their members paying dues they had to find excuses to make frequent demands and cause frequent strikes.

It came to pass that mills could not depend upon continuous operations and the frequent stoppages made it impossible for them to guarantee deliveries upon the orders which they booked.

Just at that time, also, New England legislatures, especially that of Massachusetts, began to pass many measures regulating and restricting the operation of textile mills and increasing their tax burdens.

Bankers who might have financed the modernization of textile mills, realizing the uncertainty of operation because of frequent strikes and seeing unfriendly legislatures attacking the textile industry, became afraid to advance modernization funds.

The South, which around 1900 had built many small cotton mills and discovered that there was an almost inexhaustible supply of good and friendly textile employees, who would come from the mountains, began to enlarge their mills and build new plants.

New England manufacturers of textile machinery, sensing an excellent market in the South, sent representatives to open offices at Charlotte and other points and most of them became loyal Southerners. The reports they sent back caused some of the best of the New England overseers and superintendents to seek positions in the South.

Because there were no labor unions in the South, and because there was a supply of mill employees who were willing to give a fair day's work for a fair day's pay and also because both the people and the legislatures of the South welcomed a textile industry, the textile machinery manufacturers and the bankers extended credit and helped with financing additional spindles.

In December, 1922, spindles in place were:

New England . . . . .	21,013,000
South . . . . .	16,172,000

As of December, 1952, spindles in place are:

New England . . . . .	3,938,000
South . . . . .	18,860,000

Since 1922 the following has resulted:

New England spindles decreased . . . . .	17,075,000
Southern spindles increased . . . . .	2,688,000

During the 30-year period from 1922 to 1952, New England lost 17,075,000 spindles but it will surprise many to realize that the South has added only 2,688,000 spindles during the past 30 years.

Manufacturers of textile machinery will testify that they have sold Southern mills far more than 2,688,000 new spindles during the past 30 years, much of it going to replace old equipment.

Many prate about the movement of cotton mills from New England to the South, but it will be difficult for any of them to explain where the 17,075,000, which went out of New England were placed, other than on junk piles.

If every spindle the South added had been moved from New England that would account for only 2,688,000 of 17,000,000 which disappeared from New England.

With the South purchasing more new spindles, during the 30 years, than have been added in the South, many of the stories about mills moving from New England to the South have been proved to be fiction.

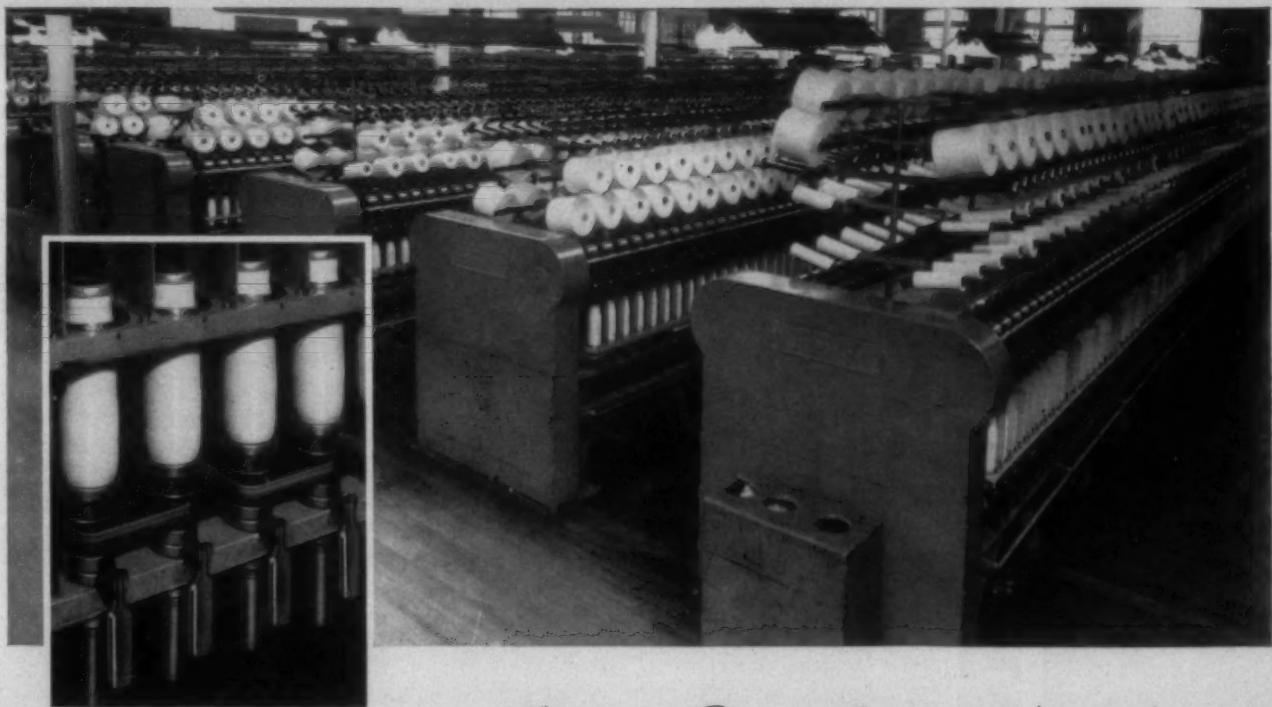
We have carefully read the report upon New England textiles by the Governors Conference and consider the following to be its most important section:

Trade unionism should be accepted as a vital necessary force in the South as it is in New England. The advance of Southern trade unionism is hampered by strong anti-labor attitudes among large segments of the population. Though it is not within our province

# Marquette

## ROLLER BEARING SPINDLES

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As the result of a series of tests in this mill, several thousand Marquette Roller Bearing Spindles have replaced plain bearing spindles. Furthermore, Marquette Spindles have been specified on new frames.

Compared with the spindles previously used, power consumption has been reduced 29%. And

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## EDITORIALS

to support or oppose the Taft-Hartley Act, we note that abuses of this act have helped to freeze a situation which finds unionization retarded in the South to the disadvantage of New England. A spread of trade unionism in the South will help to reduce differentials in wages and in work loads.

Labor unions have played a big part in wrecking the textile industry of New England and now they dominate the few remaining mills in that section, to the extent that mill managers lay down and roll over every time a labor union official snaps his fingers, and they seek to bring Southern mills into the same unfortunate state.

The efforts of New England mills to help place unions in control of Southern mills reminds us of the recent trial of an American soldier who, after his capture by Japanese, sought to gain favor, and did gain favor, with his captors by spying upon his fellow prisoners and doing all he could to make their lives miserable.

The New England textile manufacturer who seeks to establish labor unions in Southern mills is about on a par with the leper who would seek to give his disease to others.

We have nothing but contempt for the newly-elected Senator Kennedy of Massachusetts, who has announced that he will seek Federal legislation under which the U. S. Government will help unions gain control of Southern cotton mills.

All this bellyaching by New England textile manufacturers and governors is not going to help them.

They allowed their mills to become antiquated and inefficient and in spite of all they publish about their mills having moved to the South, the facts are that the South has in 30 years added only 2,688,000 spindles, most of which was new machinery, while New England has lost 17,075,000 spindles.

The Southern textile industry, having witnessed the wrecking of the New England textile industry by labor unions, does not intend to come under their domination.

The textile mill employees of the South know that they can work in harmony, and maintain pleasant relations, with their employers and see no need to take money from their pay envelopes and give it to labor union racketeers who live in idleness.

More than 25 years ago the editor of this journal, while at lunch in the Manufacturers Club in New York, was told by a man who operated mills both in the North and in the South, that he had attended a meeting of textile manufacturers in New England at which a large sum was raised to help unionize the mills in the South, and that was not the only such effort which has been made over the years.

Now the bellyachers have become bolder in their effort to injure Southern competitors but again they will be doomed to failure.

As stated in the beginning, we have great admiration for the fine group of men who built the New England textile industry to 21,000,000 spindles.

Their widows, and Ivy League college sons, refused to permit money to be spent for modernization machinery when it meant even a temporary suspension of dividends.

The Ivy League college softie sons did not have guts enough to resist complete domination by labor union racketeers and now seek to injure the textile industry of the South by even advocating government aid in forcing labor union domination upon Southern mills.

Some descendants of those who braved the Atlantic Ocean

on the Mayflower in order to become free men, have lost their taste for freedom and openly advocate government assistance in forging union labor chains upon those who still regard themselves as free men.

They will probably continue to bellyache but they will not accomplish their purpose.

## Wait And Watch

When a group of "South Carolina Democrats for Eisenhower" held a recent meeting at Columbia, S. C., to decide upon their future, Gov. James F. Byrnes gave them the very sane and wise advice, "*Wait and watch.*"

It was important to get rid of Harry Truman and his "New Deal" and "Fair Deal" and try to put an end to national crookedness, extravagance and labor union domination, but we should not be too quick to jump upon the Eisenhower bandwagon.

We should "*wait and watch,*" and already we have seen, things which may slow down the desire to jump.

Eisenhower made several trips to the South during the campaign and told Southern people that he loved them, but just as soon as ballots were counted, he indicates a different attitude.

He has appointed a member of his cabinet and also the Treasurer of the United States, from Utah, which has a population of 550,000, but entirely ignored the South.

Many people in the South, including this editor, worked hard for Eisenhower during the campaign and it is rather difficult to understand why he should so promptly give the entire section a slap in the face.

Eisenhower selected his Secretary of Agriculture from Utah, which has a very limited agricultural area, when there were many competent and experienced agricultural leaders in the South.

He selected a Democrat for Secretary of Labor and could well have selected a Southern Democrat for Secretary of Agriculture.

People who have been loudly advocating a "two-party system" for the South must have seen their hopes vanish when, after their nearest approach to the two-party system, Eisenhower treats the South like "an illegitimate child at a family reunion."

While ignoring the possibility of a Southern Democrat as Secretary of Agriculture, Eisenhower appointed a Northern Democrat as Secretary of Labor, and chose Martin Durkin, a professional labor leader who will undoubtedly seek the promotion of labor unions in the South. In addition, one of President-elect Eisenhower's executive assistants is Gov. Sherman Adams of New Hampshire, who surely had a part in hatching up the New England Governors Conference report on the textile industry. Do not forget either that ex-Senator Henry Cabot Lodge of Massachusetts, who will play a big role in the Eisenhower Administration, proposed one of the first bills for subsidizing New England textiles.

Soon after the election, a newly-elected U. S. Senator proclaimed that the United States Government should help finance the organization of labor unions in the South and Eisenhower appoints, as Secretary of Labor, a man who will certainly give all possible aid to those who seek to force unionization of the South.

After a recent visit to Eisenhower, the Negro Walter White, who earns a lucrative living as representative of the

**NEWS**

*from Ciba Research*

SUBJECT

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1. These new and original Ciba products are represented by an assortment of twelve "metal complex" dyestuffs that are applied in a neutral or weakly acid dye bath.
2. Cibalan Dyestuffs produce outstanding light fastness on wool even in pastel depths. When used for dyeing unions of wool and cotton, or wool and rayon, this means the light fastness on the animal fiber can now be brought to the level of the best Chlorantine Fast Colors on cellulosic fibers.
3. They are fast to washing, perspiration, fulling, carbonizing and decatizing. Tippy wool is dyed uniformly. These new and versatile dyestuffs are recommended for loose wool, tops, yarn and piece goods. In addition, they produce fast dyeings on nylon and silk.

The following original types represent the beginning of this interesting series...

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# CIBA

## EDITORIALS

National Association for the Advancement of Colored People, stated that Eisenhower promised to do all he could to abolish the filibuster in the U. S. Senate, when Eisenhower knows that without the weapon of the filibuster, Northern Senators would quickly pass the F.E.P.C. and force social equality with Negroes upon the people of the South.

Walter White may have lied, but it is probable that he secured some concessions from Eisenhower.

Governor Byrnes gave wise advice to South Carolina Democrats for Eisenhower when he told them to "wait and watch."

## Textile Unions Still Battling

We have been interested in the opinions expressed by some syndicated newspaper columnists as to the possibility of the C.I.O. and A.F.L. merging, now that their respective leaders have been, in effect, scared to death by prospects of a Republican Administration in Washington.

We don't think there will be much chance of it. To begin with, the new C.I.O. president, Walter Reuther, was elected with the support of Emil Rieve. Rieve, as you know, is president of the Textile Workers Union of America; Rieve, as you also know, feels pretty bitter toward George Baldanzi, formerly of the T.W.U.A. family and now director of organization for the United Textile Workers, A.F.L.

The bitterness between the two textile unions is further accented by a slander suit filed at Greensboro, N. C., by Lewis M. Conn (formerly a Rieve underling but now a U.T.W. agent) against Kenneth L. Kramer, administrator, and the C.I.O. Bi-County Joint Board as a result of a radio broadcast at Leaksville, N. C., Sept. 24; Conn is asking \$100,000, charging that Kramer "caused to be written a radio script" in which Conn was said to have "stolen C.I.O. membership cards" in a disaffiliation move to the U.T.W.

At any rate, the two rival textile unions are still at it, doing everything they can to organize every possible textile plant, and if necessary, steal locals from each other. An up-to-date run-down of recent labor representation decisions follows:

At Lowland, Tenn., workers at the plant of American Enka Corp. rejected the U.T.W. by 547 to 432.

At Greensboro, N. C., workers at Cone Finishing Co. voted 387 for the U.T.W., 229 for no union, and ten for the T.W.U.A.; at Haw River, N. C., Cone Finishing Co. employees voted 127 for the U.T.W., and 108 for the T.W.U.A.

The results of the run-off election between "no union" and the A.F.L. United Textile Workers at Cone Mills' Tabardrey Plant, also in Haw River, will depend upon the outcome of three challenged ballots. The final vote in the run-off election was U.T.W. 197, no union 195. Three ballots were challenged. In the original election held Nov. 25, the U.T.W. received 155, the T.W.U.A. 66, and no union 165. The run-off election was held with the C.I.O. union being dropped from the ballot. The determination of the validity of the challenges will not be made for some weeks and not until a complete investigation is made of the basis of the challenges. In the absence of a majority vote being cast for the U.T.W., no union will be certified.

At Greenville, S. C., the local at Woodside Cotton Mills has voted to leave the T.W.U.A., and has petitioned the

National Labor Relations Board for an election to determine officially the bargaining agent.

Another disaffiliation move has bogged down as the result of the N.L.R.B. dismissing election petitions filed by the U.T.W., which sought elections in all Fieldcrest Mills plants at Leaksville, Draper and Spral, N. C. The N.L.R.B. ruled that an existing contract between the Fieldcrest management and T.W.U.A. will remain in effect until May, 1953.

Results of an election among workers at the Neuse, N. C., plant of Erwin Mills, Inc., showed 52 votes for the T.W.U.A., 21 votes for the U.T.W. and 15 votes for no union.

We have been pleased to learn that action of Huntsville (Ala.) Mfg. Co. in connection with the hiring of persons to replace those on strike has been ruled out, as grounds for hearing complaints of the T.W.U.A.-C.I.O., by general counsel of the National Labor Relations Board. The ruling, in simple terms, means that the 162 persons who did not return to work at the mill at the invitation of the company lost their rights to re-employment. It means, further that the approximately 112 who were later rehired by the mill were properly placed in the status of new employees. One result of this is that such employees no longer can count previous work at the mill as applying to their seniority. The ruling further means that the approximately 50 former employees not rehired by the mill have no rights based on previous employment and, if rehired, would also be employed on the basis of new employees.

Readers may remember that the N.L.R.B., in a quite similar case involving Dallas Mfg. Co. at Huntsville, ruled against the company. Dallas Mfg. Co. soon thereafter went out of business.

## That Fine-Looking Young Man

Television, even we will have to admit, can do things that the printed word and picture can't accomplish. It does provide a lot of entertainment, and it gives papa a chance to read his evening paper while the brats are huddled like gnomes in front of the glass stage, watching a shoot-em-up.

But, television also creates concern. It has provided us with a new worry, which at the moment is the Commonwealth of Massachusetts. We say Massachusetts, because its people will be represented in the United States Senate, for the next six years, by one John F. Kennedy.

Before we observed Senator-elect Kennedy recently on the television program, "Meet the Press," we thought of him, as many others likely did, as a fine-looking young man who, despite his affiliation with Dever and the like, had a degree of gentility sufficient to make him a pretty good citizen. His appearance on "Meet the Press" served only to indict him, as far as we are concerned, as just another smart young crackpot who has denied his natural heritage (like the eminent Roosevelt II) in order to satisfy his political ego. His immediate forebears made some money; he is well fixed, and doesn't have to worry about maintenance of capital assets.

Young Kennedy waved his shock of hair at the camera and expounded several important and false economic theories, but he did it in such a pleasant manner that the panel of expert interviewers failed to question the premises on which his ideas are based. His statements emphasize the extent to which these dangerous theories have become part of public thinking. They also highlight the dilemma which



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## TEXTILE INDUSTRY SCHEDULE

— 1953 —

- Jan. 10—PIEDMONT SECTION, A.A.T.C.C., Clemson House, Clemson, S. C.
- Jan. 19-22—PLANT MAINTENANCE SHOW, Cleveland (Ohio) Auditorium.
- Jan. 26-27—Annual meeting, NATIONAL COTTON COUNCIL OF AMERICA, Dallas, Tex.
- Jan. 26-30—INTERNATIONAL HEATING AND VENTILATING EXPOSITION, International Amphitheatre, Chicago, Ill.
- Feb. 3—AMERICAN ASSOCIATION OF TEXTILE TECHNOLOGISTS Symposium, Hotel Statler, New York City.
- Feb. 9-11—A.M.A. CONFERENCE ON MARKETING, Hotel Statler, New York City.
- Feb. 16-18—A.M.A. CONFERENCE ON PERSONNEL, Palmer House, Chicago, Ill.
- Feb. 18-20—COTTON RESEARCH CLINIC, General Oglethorpe Hotel, Savannah, Ga.
- March 2-6—A.S.T.M. SPRING MEETING AND COMMITTEE WEEK, Detroit, Mich.
- March 26-28—Annual convention, AMERICAN COTTON MANUFACTURERS INSTITUTE, Palm Beach Biltmore Hotel, Palm Beach, Fla.
- April 8-10—A.M.A. CONFERENCE ON MANUFACTURING, Hotel Statler, New York City.
- April 11—PIEDMONT SECTION, A.A.T.C.C., Hotel Robert E. Lee, Winston-Salem, N. C.
- April 20-23—A.M.A. PACKAGING CONFERENCE AND EXPOSITION, Navy Pier, Chicago, Ill.
- April 22-23—Spring meeting, THE FIBER SOCIETY, New Orleans, La.
- April 27-28—Annual convention, COTTON MANUFACTURERS ASSOCIATION OF GEORGIA, Boca Raton (Fla.) Hotel and Club.
- April 24—TEXTILE QUALITY CONTROL ASSOCIATION, Clemson, S. C.
- May 7-9—Annual convention, PHI PSI TEXTILE FRATERNITY, Penn Sheraton Hotel, Philadelphia, Pa.
- May 11-16—NATIONAL COTTON WEEK.
- May 13-15—NORTH CAROLINA STATEWIDE INDUSTRIAL SAFETY CONFERENCE, Robert E. Lee Hotel, Winston-Salem.
- May 14-16—Annual outing, CAROLINA YARN ASSOCIATION, The Carolina Pinehurst, N. C.
- May 18-20—A.M.A. CONFERENCE ON INSURANCE, Hotel Statler, New York City.
- May 18-22—NATIONAL MATERIALS HANDLING EXPOSITION, Convention Hall, Philadelphia, Pa.
- May 25-29—Annual convention, SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION, Sea Island, Ga.
- June 12-13—PIEDMONT SECTION, A.A.T.C.C., Mayview Manor, Blowing Rock, N. C.
- June 17-19—AMERICAN MANAGEMENT ASSOCIATION CONFERENCE ON GENERAL MANAGEMENT, Hotel Statler, New York City.
- June 18-20—Annual convention, SOUTHERN TEXTILE ASSOCIATION, Mayview Manor, Blowing Rock, N. C.
- June 29-July 3—Annual meeting, AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J.
- July 26-31—INTERNATIONAL EXPOSITION OF FABRICS, FIBERS, FINISHES AND YARNS, Waldorf-Astoria Hotel, New York City.
- Sept. 10-11—Fall meeting, THE FIBER SOCIETY, Lowell, Mass.
- Sept. 12—PIEDMONT SECTION, A.A.T.C.C., Hotel Charlotte, Charlotte, N. C.
- Sept. 17-19—National convention, AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS, Conrad Hilton Hotel, Chicago, Ill.
- Oct. 14-24—INTERNATIONAL EXHIBITION OF TEXTILE MACHINERY AND ACCESSORIES, Belle Vue, Manchester, England.
- Oct. 15-16—Annual meeting, NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION, The Carolina, Pinehurst, N. C.
- 1954 —
- April 26-May 1—AMERICAN TEXTILE MACHINERY EXHIBITION, Atlantic City (N. J.) Auditorium.
- June 19-22—Annual convention, S.T.A., Ocean Forest Hotel, Myrtle Beach, S. C.
- Annual convention, A.A.T.C.C., Atlanta, Ga. (Dates not yet selected.)

## EDITORIALS

may face the Eisenhower Administration when it attempts to set a sound course of action in the face of popular misconceptions.

The Senator-elect said that the transfer of large textile efficiency and lower-cost operation, was one of the basic causes of Massachusetts' difficulty. He insisted that it was the duty of the Federal Government to come to the rescue of his state by bringing pressure to bear, so that wages in the South would have to be raised and there would be no advantage for industries transferring their plants from New England.

We won't argue the question of a wage differential being the principal factor in a firm's decision to move South; it's hogwash.

Utter disgust for Kennedy's attitude on economic affairs has been expressed in a letter to him from a Southern mill man, N. L. Gilbert, assistant superintendent of Van Raalte Co.'s plant at Blue Ridge, Ga. The letter is as follows:

Senator-Elect John F. Kennedy  
Boston, Mass.

I was filled with admiration at the courageous and vigorous fight you waged in the recent election and was gratified at your election. I felt that you were bringing to Congress, courage and initiative which are badly needed at this time.

Your recent appearance on television made me, and many others, view with considerable alarm your position on labor. You said; in effect, that the Federal Government should throw its weight behind unions in an attempt to unionize the South and thus retain industry in New England.

As far as I can see, this is nothing else than compulsory unionism which represents a violation of one of our fundamental democratic precepts—the right to work when and where one chooses.

I cannot blame a man for trying to protect industry in his home state but certainly consider that man dangerous who would attempt to do so at someone else's expense.

Prior to your election, I considered you as potentially a national figure, but your position on compulsory unionism certainly proves otherwise. You sounded more like the president of a local branch union than Senator-elect of a great commonwealth.

N. L. Gilbert  
Blue Ridge, Ga.

We thank Mr. Gilbert for sending us a copy of his letter, but we would venture the opinion that Senator-elect Kennedy will not show it around to his constituents in Massachusetts, not even to the sweet old ladies he entertained at tea parties during the campaign.—McA.

## Stevenson And A.D.A.

A newspaper story from Washington, D. C., says:

Washington, Dec. 5.—Adlai Stevenson ended his White House visit today after talking with leaders of the Americans for Democratic Action (A.D.A.) and several members of Congress.

Francis Biddle, former Attorney General and national chairman of A.D.A., said he and Robert R. Nathan, head of A.D.A.'s executive committee, "just talked general plans" with Stevenson.

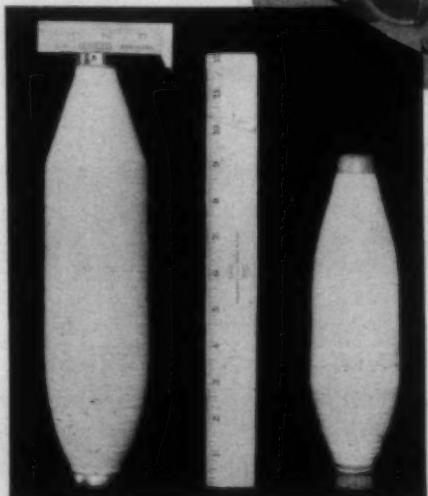
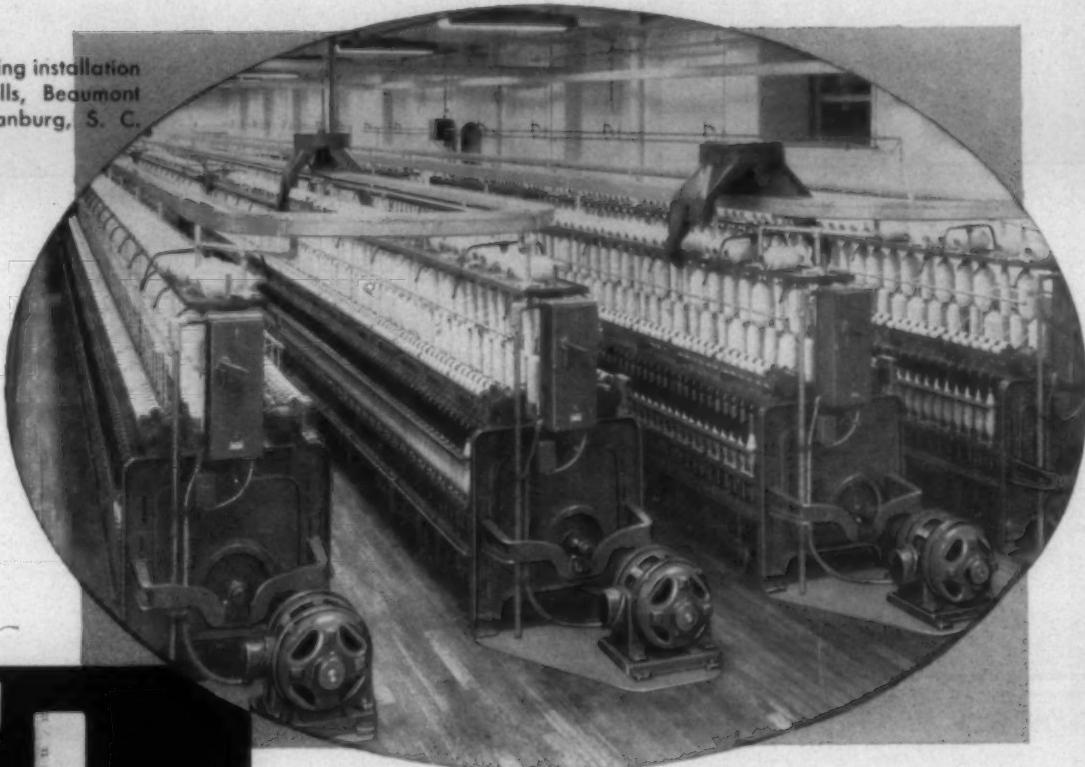
Had Adlai Stevenson been elected president of the United States the Americans for Democratic Action (A.D.A.), who are ardent supporters of almost everything for which the Communists stand, would have occupied special guest rooms at the White House.

It will be recalled that, when he was nominated, Stevenson immediately selected as his personal campaign manager one of the A.D.A. leaders.

Stevenson might just as well have "talked general plans" with Joe Stalin.

# WHITIN keeps pace with the demand for LARGE PACKAGE SPINNING

Model F3 Spinning installation  
at Spartan Mills, Beaumont  
Division, Spartanburg, S. C.



Unretouched photo of a large package spun on the "F3" and conventional size bobbin. The 11" package contains 7.50's and the net weight of yarn exceeds 16 oz.

**Whitin's new "F3" Spinning Frame** successfully meets all the demands of the Industry for large package spinning on coarse counts. These frames are designed for 11" traverse with filling wind, the package containing 16 oz. or more net weight of yarn, depending on the count.

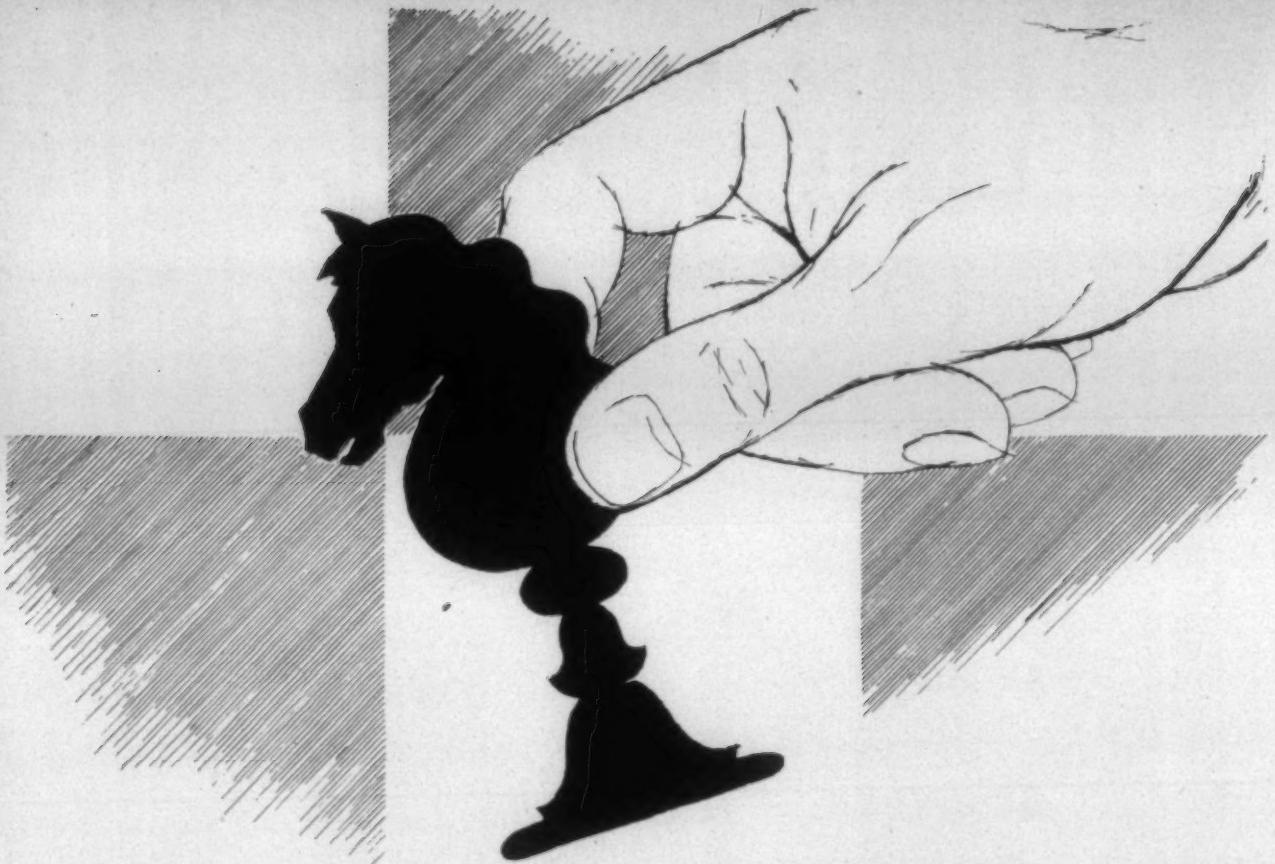
An ever-increasing number of mills have discovered that substantial economies can be effected by the use of large package spinning, particularly in running coarse numbers. Savings are definitely assured because large packages increase the length of the doffing cycle, reduce package handling in winding, — result in lower labor and winding costs.

Cost-conscious mills are finding a number of other interesting features on the Model F3 including (1) it requires no plant modifications to replace old frames. (2) it is a conventional type frame; your employees are already acquainted with its operation and understand its maintenance.

Last, but not least, (3) it is comparable in initial cost to standard spinning frames.

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to improve lubrication and reduce maintenance costs  
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Through Gulf Periodic Consultation Service, Gulf Sales and Staff Engineers offer expert help on every phase of lubrication, in every room in the mill. If you are not already doing so, you'll find it pays to adopt this service—your best and most logical move to improve lubrication and reduce maintenance costs. For further information, write, wire, or phone your nearest Gulf office today.



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## What Do Supervisors Expect Of Top Management On Safety?

By ROBERT G. SHARPE, Overseer of Weaving, Pacific Mills; Columbia, South Carolina

**T**O run down his job description—as set forth by management—the supervisor finds his job is all inclusive, so to speak. Briefly, it is to get out the required production, up to the required standard, in the required time, at the required cost, with the greatest economy of manpower.

Sounds like quite an order, but we have help, real help, from management in accomplishing our task—the services of industrial engineers, maintenance and lubrication specialists, time and motion study on one hand, and adequate machinery, tools and materials, plus a full complement of help to do the job with on the other hand. In other words, our production job is clearly defined and we have the means, support and backing with which to do it.

The supervisor is the first line of management and, as such, is directly responsible for accident prevention and safety on his job. The same *real help* the foreman has from top management in running his production job is necessary here if the safety program is to attain any degree of success—and the supervisor expects this help.

First, he should have full knowledge of company-wide and departmental policies on safety. If the company doesn't have any well defined policies he can, by his insistence, see that they are established. Secondly, he should know his part in the safety program, which includes his responsibilities in addition to those of others co-operating with him in the program. Next, he should understand clearly the extent of support from management in decisions and actions that he may take in accordance with the over-all company policy. He should also know how far he might develop his own initiative in making individual approaches to accident prevention.

These are essential questions that every supervisor expects management to answer clearly and concisely. Unless he has the answers to these problems, unless he knows his exact place in the scheme of things, the supervisor is handicapped in the promotion of safety. Management has a direct and vital interest in accident prevention. If it isn't on the ball in promoting safety it has no right to expect very much of supervision.

Since the supervisor has a right to this clear picture of his relationship to the safety program, then logically he

must have provided to him, by top management, all of the necessary "tools," so to speak, in order that he can effectively carry out his responsibilities for preventing injuries to his workers.

By "tools" I mean: proper training in the technique of accident prevention; staff assistance in planning the program and in analyzing the causes of accidents; sufficient material and safety aids to make the departmental program attractive and productive in gaining and holding the interest of every worker; a suitable place in which to hold discussions and meetings with employees, as a part of the program. It is too often the case that management doesn't provide a suitable place for safety meetings. If such is true, then management should not expect any better results than the "tools" it provides.

Top management should see that new employees are instructed at time of employment about the importance of safety and the company policy or procedure in case of an accident. Each supervisor should follow up this point closely with each new person assigned to his department. I remember that when I first went to work at a cotton mill where accident prevention was given little attention, I had a minor accident and, receiving no instructions, and little sympathy from my foreman, I went to a doctor after getting off work. My doctor notified the company doctor, and, as a result, the superintendent called me on the carpet. Being a "greenhorn," I was not familiar with company procedure. Had I been properly informed at employment and had top management's active interest in safety been so strong as to instill its importance in my foreman, then I may not have had an accident at all, and certainly it would have been properly taken care of.

The importance of a sincere and active interest in safety on the part of top management cannot be over-emphasized. It is not enough to be interested; that interest must be shown and demonstrated. It spurs supervisors and individual employees on to greater efforts in accident prevention.

A high official of a large plant in a Southern state makes a practice of personally investigating each serious accident as soon as he can reach the spot after its occurrence. He does it both in an official capacity and because he takes a

personal interest in it. The employees appreciate his interest in their welfare but, at the same time, they prefer not to be the next one investigated—neither does the supervisor. Both are good for accident prevention.

Too many of the "big boys" never attend a supervisor's safety meeting. Top management should make it a point to drop in on meetings of the foreman and his employee safety committee at frequent intervals. If management is "forgetful" about this the supervisor should remind them. It will not only get "the boss" to attend but will earn the supervisor a reputation as a go-better. Dropping in on such meetings gives added emphasis and importance to the work of committee members. They know that top management appreciates the work they are doing—and a sense of appreciation goes a long ways toward building a safety record.

There are many ways in which the company officials can show their appreciation for successful work in accident prevention by safety committeemen: A "pat on the back" through conversation with departmental employees, presentation of a safety flag or plaque, a trip to a state or regional safety conference for employee representatives of departments with an outstanding record. Or for a new record a barbecue always hits the spot, the entire department being included. The incentive for accident prevention must be set up just as other incentives are provided in production work. Sometimes management lets these things ride. Here again the supervisor can do a good job by impressing management with the need for its active interest and participation.

Is management in the textile industry of the South meeting the challenge that safety is its responsibility, just as efficient production is its responsibility? No—not entirely.

Top management is too prone to give lip service to accident prevention. Safety must be put on an equal level of importance with the principal phases of management. Many supervisors, as we all know, will manage their job according to the dictates of the higher-ups. Many will have just as many accidents as their bosses will stand for. If 25 lost-time accidents is all right, then you may have 25 lost-time accidents. If 25 per cent seconds in production is all right, then you have 25 per cent second-grade products—however, top management gives much more than lip service to the quality and volume of production. We all have a continuing program for the betterment of our quality and efficiency. It is something to which we give thought and effort every day that passes. The average mill thinks of safety only when accident frequencies get alarmingly high, and until this trend of thought changes our accidents will continue to flourish. Whether you want quality-conscious or safety-minded employees the same management principles apply, and the same effort is necessary to attain both.

Considerable money is spent to give thorough training to men on new jobs, to new and old supervisors, and to prospective supervisors; special laboratory instructions, correspondence courses, group training—all concerning the technical phase of plant operations. If there is a textile manufacturing plant in the South which gives any degree of such training emphasis to safety and accident prevention, it has escaped my attention. Money put out for such safety training will pay large dividends in return.

Top management should clear safety recommendations of the supervisor or the safety committee at once. Prompt

action is necessary. Approve it or reject it with reasons, but do not hold it up. Nothing is more discouraging to the safety worker than to have no action taken nor explanation given on his recommendation. In this case, too, it might be well to give the needle to management. It is the supervisor who suffers if management delays too long in giving the answer to the recommendation of a worker.

In one plant an accident hazard was reported by a safety committeewoman to top management at several of the monthly safety meetings and nothing was done. Consequently she lost interest. If top management does not care, it's a job to get anyone below them to care. On the other hand, if a worthwhile suggestion receives prompt action, you can count on many more good suggestions coming from the same source.

I think it would be well to mention here several safety aids employed by top management that I have seen working and know to be good. First is an industrial nurse, trained in textile plant safety and in the treatment of industrial accidents, spending nearly all of her time visiting departments of the various plants talking to employees and supervisors alike, looking for possible accident hazards, replenishing the stock of first aid boxes, and checking on minor accidents. The mere presence of this uniformed nurse in a department will set an otherwise careless employee to thinking. The value of her untiring work is beyond measure.

Next, located at the entrance to a plant is a bulletin board depicting the days operated since last lost-time accident and the current record in man-hours. The days operated are corrected each morning, whereas the man-hours are as of the tenth of each month. In the center of this board is a red light which is turned on at the occurrence of a lost-time accident and flashes on and off continuously until the injured person is back on the job. This creates considerable interest and serves as a constant reminder to everyone.

Another aid is in the form of visual education. Many plants have movie projectors with sound attachment, and every safety meeting includes at least one interesting and helpful film on accident prevention. These safety committee members enjoy their meetings and get new and stimulating ideas.

A very important aid is first aid training. Provision is made whereby workers in the plant can receive standard Red Cross first aid training, and they are encouraged to do so. A first aid trained worker is a safe worker. You would be surprised at the number of workers who want such training. The value is not so much in the actual training but in the first hand knowledge that an injury is an important and serious thing and worth serious attention in trying to prevent.

To summarize: the supervisor must have a clear and thorough understanding of what management expects and then he must have its backing and support as well as the information necessary to do the job of accident prevention. Supervision can never do the job assigned to it unless management fulfills its obligations as well. As a supervisor, I have found these basic needs to be paramount—not only in safety—but in every phase of day-by-day operation.

Safe plant operations must depend primarily upon the first line of supervision. Supervision can do this job only when it has top management's full support and co-operation.

Mr. Sharpe was on the program of the Piedmont Section, Southern Textile Association, at Belmont, N. C., Nov. 8.

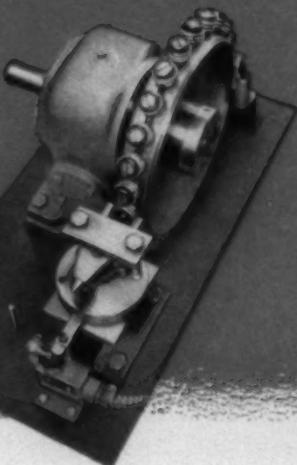
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# A Report On The T.R.I. Meeting

PERCY S. HOWE, JR., president of the American Thread Co., was elevated from vice-president to president of the Textile Research Institute last month at the institute's 23rd annual meeting in New York. Mr. Howe succeeds Andre Blumenthal, vice-president of Sidney Blumenthal & Co., Inc., who completed his two-year term. Julius B. Goldberg, research director for J. P. Stevens & Co., Inc., was elected vice-president succeeding Mr. Howe. Donald H. Powers of Warner-Hudnut, Inc., was re-elected treasurer and Paul C. Alford, Jr., staff member of the institute, was re-elected secretary.

Distinguished textile scientists presenting papers at the meeting included Helmut Wakeham of T.R.I., "The Elasticity of Cotton;" R. G. Stoll and H. F. Tindel of Celanese Corp. of America, "Studies on the Resilience and Crease Resistance of Fabrics;" E. Howard Mercer of the Commonwealth Scientific and Industrial Research Organization of Australia, "Fiber-Forming Phenomena With Certain Proteins;" Nicholas Drisch and Leonard Soep, Comptoir des Textiles Artificiels, Paris, France, "Fundamental Improvements in Regenerated Cellulose Fiber Structure;" Richard O. Steele and Harris M. Burte of T.R.I., "Studies of Ageing in Worsted Processing;" Howard J. White, Jr., of T.R.I., "Radioactive Tracer Techniques in Textile Research;" and Orville C. Wetmore of the Du Pont textile fibers department, "Factors Influencing Clothing Comfort."

New scientific data about the properties of cotton were presented by Mr. Wakeham. "If one disregards the economic arguments, the most important advantage which cotton offers to the textile field is the unique combination of mechanical properties," said Dr. Wakeham. "It is no secret," he continued, "that the synthetic fiber manufacturers would like to produce a man-made fiber which possesses the mechanical advantages of cotton, although so far they have not achieved great success in this direction."

Among the characteristic advantages of cotton, Dr. Wakeham observed, are: (1) Cotton has a relatively low initial elastic modulus over the low load range, which is most generally applicable in conditions of real use. (2) Cotton exhibits no appreciable yield point and high flow region such as is characteristic of all textile fibers at higher loads with the exception of the relatively brittle materials, such as Fortisan, ramie, flax, and cordage fibers. (3) The third important difference between cotton and other cellulosic fibers of similar extensibilities is its insensitivity in mechanical behavior toward the presence of water.

"These general differences in fiber properties can be shown to carry over into the behavior of yarns made from the same fibers," Dr. Wakeham said. "As a first approximation, the properties of the yarn are the properties of the fibers. This simple fact is frequently overlooked by people who are trying to improve or modify the behavior of the end-use product which they are making."

A newly-developed instrument for producing randomized wrinkle patterns on fabric samples which are large enough for later subjective evaluation was described by Dr. Stoll. Dr. Stoll discussed at considerable length the principles

underlying good wrinkle performance and the shortcomings of present wrinkle recovery evaluation procedures.

The new device grew out of recognition of the "good results which some experts obtain from the so-called clenched-fist test," Dr. Stoll declared, "and the importance of the appearance aspects of crease resistance. We have evaluated, under controlled conditions, a number of methods for producing randomized wrinkle patterns using fabric samples large enough for subjective evaluation. We feel that we have now an instrument which does this job quite well.

"The apparatus consists essentially of an air system which alternately pumps the air out of a group of specimen tubes into another set of specimen containers. The specimen containers consist of transparent tubes which are open to the air. Inside of these tubes are sealed-in rubber diaphragms. The tubes and rubber diaphragms are set into a headpiece which is connected with the air system and which carries in its center a post to which the fabric sample can be attached in a hose-like manner."

Dr. Mercer, the Australian scientist who is on a year's fellowship at T.R.I., declared: "A knowledge of the principles underlying the synthesis of high polymers has led to the development of many artificial fibers and has created large new industries. For economic reasons, however, the natural sources of high polymers are likely to continue to meet the greater part of our demands, and therefore research needs to be directed also toward the more obscure problems of the synthesis of these natural high polymers by plants and animals. We may hope that an improvement in quality and quantity of the products would follow an understanding of the steps in their synthesis."

All natural polymers are the products of individual biological cells and are formed within the cells as soluble, simple molecules, called precursors, he pointed out. With this information, Dr. Mercer continued, the facts of silk formation were studied in order. This was done, he explained, because known characteristics of silk formation aided the studies on wool.

Development of a new type of rayon yarn which is said to behave more like natural cellulose fiber than the known man-made fibers, and "seems even to be superior from some points of view to natural cellulose fiber," was disclosed by Mr. Soep, the French scientist. The yarn does not yet have a name, he said, but it is being produced under the designation BX and will be exported to the United States.

Mr. Soep declared that the process that has been developed has been covered by patent applications, most of which have become patents in the United States of America, it was added. Commercial production has started only recently on a semi-works scale and has been centered on tire carcasses and direct spun yarns of fine denier.

Considering ageing in worsted processing, Mr. Steele told the meeting that the behavior of single fibers removed from freshly processed top or roving and of samples of these fiber assemblies themselves indicates that as ageing pro-

ceeds, there is a gradual decay of the tendency of the fibers to regain the crimped configuration they had before being straightened by processing. In single fibers and in samples of fresh top and roving unwound from the ball or bobbin, he added, there is actually a regain of crimp. Laboratory tests, he said, failed to show measurable differences in the finished fabrics made from rested and unrested materials.

Dr. White explained radioactive molecules and went into the details of how they assist textile research. He showed some examples of tracing and measuring small amounts of material in mechanical processing. In addition, he spelled out the use of tracers in following chemical and physical changes within a single fiber.

Dr. Wetmore described a three-sided program being followed in Du Pont's textile research laboratories to study factors influencing body comfort in relation to clothing. Two phases of this use human subjects in a controlled atmosphere. The third phase uses a machine that tests fabrics over a simulated "skin" in a controlled atmosphere. One aim, Dr. Wetmore stated, is to compare the results of tests on people with results from the machine.

"The heart of the machine consists of a heated surface,

about four inches square, that represents the human skin. This 'skin' is kept heated at body temperature. A square foot of fabric is placed over the 'skin.' The humidity, the speed of air over the fabric, and the temperature of the walls of the machine are all controlled so that various weather conditions can be duplicated. The machine then records data which can be used to calculate how a fabric resists heat loss from the 'skin' under a particular set of conditions.

"Eventually," Dr. Wetmore said, "we hope to be in a position to make confident predictions of comfort from laboratory tests on our machine. Perhaps some day, a test for comfort will be nearly as simple as a test of tensile strength is today."

The institute elected three new members to its board of trustees: Dr. Earl E. Berkley of Anderson, Clayton & Co., Houston, Tex.; Harold J. Walter, president of Bachmann Uxbridge Worsted Corp., Uxbridge, Mass.; and Richard D. Wells of Bates Mfg. Co., Lewiston, Me. Retiring members of the board are Mr. Blumenthal, Ephraim Freedman of R. H. Macy & Co., New York, and W. Bailey Sellars of Burlington Mills Corp.

## Management's 'T' Formation

A FEW months ago, at one of the supervisors' meetings which we hold monthly, the question was asked: "What do you have the most trouble doing, and where do you think we can be of the most assistance to you?" The predominant problem was the same: "How can I best get my ideas and my thoughts over to the people whom I supervise?" This is a problem that is common to all of us, regardless of the level of management which we may represent.

There is a difficulty which we have failed to solve and which is the cause of many of the misunderstandings and many of the labor problems which exist today. That difficulty is communication. Back in the early days, when industry was small and the owner of the plant was the top management, he was very often also the superintendent, the overseer and the second hand; he dealt directly with the employees, and there were very few misunderstandings. It has been the growth and the expansion and the size of industry and the impersonal way in which many of the factors affecting the employees have been explained that have caused misunderstandings between them and the management.

Many times, I think, we try to complicate the solution of our problems; and I want to show you how the use of the "T" formation in a management set-up can help to solve this one. I do not say that it will always solve it, but I do say that it can be of considerable assistance.

It is equally as true in operating a mill as it is in football that the basic thing in success is a desire to win, or a desire to succeed. The basic requirement in trying to get information from the top level of management to the employees is to have a group of supervisory employees who feel that they are part of a team and who have a desire to win and to have a group of employees who feel that they are part of the team and have a desire to win or to succeed. Who-

By CHARLES A. GIBSON

President, South Carolina

Textile Manufacturers Assn.



ever heard of a successful football team where the players and the coach and everybody else did not have a keen desire to win?

Let's see what is done to get a successful football team. The same principles, I think, can be applied in trying to get a successful mill operating team. The first thing that is done in building up a good football team is to hire a coach who knows his business. The same is true in a mill. A top management group must be hired who know their business and know how to get results. Whoever heard of a good football team that had a poor coach? Whoever heard of a smoothly operating mill where there was poor management?

You know that the quarterback in the "T" formation is the key man. He is the man who calls the plays. In our case he happens to be the captain, also, and can give orders. He is the man who receives the instructions direct from the coach and carries out the instructions of the coach and his staff. On our mill team the quarterback is the mill superintendent. He has got to be a good man. He has to call the right plays at the right time, and he has to follow the instructions of the coach; he must convince the rest of the team that the play being called is the correct one. Any of you who know anything about football know that the success of any team is largely dependent upon the type of quarterback that the team has.

Three other men are in the backfield. They are the men

who run with the ball most of the time; they are the ones who carry the scoring punch. On our mill team these men are represented by our overseers.

Did you ever know of a winning football team where the other backs did not have confidence in the quarterback, or where they did not block for each other, or where they did not have confidence in the coach and want to follow his instructions? It just does not happen. The same thing is true in the operation of a mill. The overseers must co-operate with each other; they must co-operate with the superintendent; they must co-operate with top management; and they must follow instructions explicitly. Otherwise this problem which we are discussing, of getting team play and getting a common understanding of what is going to be done and how it is going to be done all the way down through the line to the employees, just never gets solved.

Let's look at the ends. In the mill these men are the second hands. You know that in football the ends sometimes carry the ball; but most of the time they are in there blocking, they are in there tackling, and they are out there catching passes. These men, I suspect, are about as close to being backfield men as they could possibly be without being in a backfield position. Tell me, whoever heard of a good football team that did not have good ends? And whoever heard of a good mill that did not have smart and intelligent second hands?

Take a look at the tackles; they are the ones who do a lot of the heavy work both on offense and defense. In our mills they are the section men. They have to keep up with the signals and with what is going on, and they are very important in the success of the team. These tackles do the blocking, and they stop the other team from winning. The section men are our tackles in the mill, and they are a very important factor in putting across the thought of having team play and a common understanding of what is going to be done and why it is going to be done, all the way from the top management down to the employee.

Look at the guards. They are men who get little glory but who are probably as important as any of the other men on the football team. On our mill team the guards are represented by those people whom we frequently call hour hands. They get little glory, but they are important for the success of the team. Who has ever heard of a successful football team which had poor guards? And who has ever heard of a successful mill in which the hour hands were poor and inefficient? It simply does not happen, gentlemen.

Let's look at the center. The center has to be a highly skilled man, particularly on offense; and he frequently backs up the line on defense. In our mills the center is represented by some of the more highly skilled fixing jobs, such as loom fixing and so forth.

There are some other people who are very important in the success of the team but who seldom get out on the field of battle. On a football team there is a trainer; in our mill we have an industrial nurse. The industrial nurse, like the trainer, frequently is the morale builder and the one who keeps understandings correct among the other members of the team.

Some of you may ask what happens to the folks who weave and spin. I say they are on our team, too. We have got to have them. Maybe they do not get out there and do much tackling and much blocking, but I am sure you have

never known of a highly successful football team that was without its loyal fans and cheerleaders.

You can see, therefore, that the organization of our mill team is a great deal like the organization of a football team. The things that lead to success in football are the same things that lead to success in our mill organization.

Why am I emphasizing the matter of team play while actually what I am talking about is the dissemination of information from the top management all the way down to the employee? The reason is this. People, no matter on what level they may be, can understand and learn at any time they want to but if they do not feel they are a part of the team, if they do not feel they are being treated fairly, if they lack confidence in the backfield men and the quarterback and the coach, they will never learn their signals; they will never understand what the plays are; they will never do their part; and the whole problem of getting understanding will result in complete failure.

Whoever heard of a good football team where the coach or the quarterback never gets around to talk to the tackles and the guards and the ends and the center? What I am trying to tell you is that to have a successful football team there must be mutual confidence, a mutual belief in each other, a desire to block for each other, a desire to tackle for each other. And, most of all, the members of the team must have belief in the quarterback who is calling the plays out on the field and must know that the coach is making sound decisions. Otherwise the morale of the team is poor, and the team does not click; it does not win. The same is true in the mill. You must develop a spirit of mutual respect and co-operation, for otherwise your problem of communication will be tremendously multiplied.

Let's see what are some of the things a successful football team does that we should also follow if we want to have a successful mill operating team. For this purpose we may assume that we have a good coach, good backfield men, and a good line. They will not remain good for very long unless they practice together. They must associate with each other; they must rub elbows; not only must they be told but they must see that each is trying to do the best he can for the other.

The second thing a good football team does is to make sure that its staff and players are healthy. We should try to create a healthy place for our people at work and should encourage them to take care of their health, for a sick person is a mighty hard person to get to understand anything. And don't think that some backfield men—overseers—are not mighty hard to live with sometimes, when you are not feeling well.

Another thing might be noted about a good football team. It is not all work and no play for its members. The boys have a little bit of foolishness, have a little bit of fun; they associate with each other off the field, primarily to build up confidence. I realize, as you do, that our backfield men and our management team probably cannot get out and rub elbows with everybody in the mill on an informal basis; but this can be done with certain members of the line through safety suppers, athletic banquets, family barbecues, and the like. The purpose of all of this is to build up mutual confidence between the players.

I like the bit of advice that is given on the top of the mayonnaise jar you will probably find in your refrigerator; it particularly applies to the top management and to the

backfield men. Go read it sometime; it is worth noting. This is what it says: "Keep cool; do not freeze." A great football player, you know, always keeps cool but does not freeze when the pressure is on. If you men, as second hands and overseers and members of top management, want to maintain the respect of the employee, you should take this advice—keep cool but don't freeze. I mean don't fly off the handle yet at the same time don't be so distant from the employees you supervise that they lose confidence in you and think you have no interest in them. If you do not try to understand them they will not try to understand you. Don't forget what happens on the football team. If the backfield and the coach try to take all the glory from the linemen soon there is not a team. The same principle applies in our mill "T" formation. Give your guards and centers and tackles and ends the credit. They are worthy of it. If you fellows in the backfield and you fellows as coaches are trying to steal all the glory, look out. If you do, you will never get a common understanding all the way down through your organization.

I hope I have been able to draw for you the comparison between a football team and a mill operating team. On a good football team there is no misunderstanding between the centers, the guards, the ends, the tackles, the backfield men, and the coach; if there were it could not be a good

team. I say the same thing is true in the mill. We must create an atmosphere; we must create a spirit of co-operation; we must create mutual understanding and trust between all members of the team before we can ever be successful. When people want to understand they can understand; when they don't want to understand they can be the dumbest bunch you have ever seen. If you want to get your line of communication straightened out, get your mutual confidence and respect established; the rest will take care of itself.

In closing, let me say this to you who are supervisors, and particularly to those of you who are superintendents and who may have to be calling the plays out on the field. Don't forget that when you call the right play you are a hero and when you call a wrong play you are going to be criticized. The same is true in the operation of the mill. You are a great hero to the line and to everybody in the stands when you call for something to be done and it works, but when it does not work you are open for plenty of criticism from the line and from everybody in the stands. It is necessary that you have an appreciation of this fact, for otherwise you are likely not to keep cool and you are more likely to freeze up.

Mr. Gibson was one of the speakers at the Nov. 15 meeting of the South Carolina Division of the Southern Textile Association at Columbia.

## Hazelwood & Winget New Leaders Of Combed & Carded Yarn Groups

WILLIAM P. HAZELWOOD of Pickett Cotton Mills, High Point, N. C., was elected president of the Southern Combed Yarn Association and Arthur K. Winget of American & Efird Mills, Mt. Holly, N. C., was elected president of the Carded Yarn Association last month during the two associations' joint convention cruise to Bermuda. The two groups conducted separate business sessions, but joined forces for addresses by Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute, and William Rhea Blake, executive vice-president of the National Cotton Council.

Striking an optimistic key, Mr. Jackson told the executives that the cotton manufacturing industry has set its feet on the firm ground of recovery and toward the goal of prosperity in an atmosphere of free enterprise. Following a brief period of testing this recovery when buyer confidence was weakened by a gloomy outlook for exports and a confused raw cotton situation, confidence has been restored in the cotton textile market, he said.

In looking over basic factors, the outlook for domestic consumption of cotton is far brighter than a year ago, Mr. Jackson pointed out. Save for a few items, the cotton textile



Officers of the Southern Combed Yarn Spinners Association (left to right): W. P. Hazelwood, R. B. Hayes, Alfred Robinson, C. C. Dawson and George Boys.



A. K. Winget (left), new president of the Carded Yarn Association, poses with Retiring President Halbert Jones (center) and Executive Vice-President Owen Fitzsimons (right).



Principal speakers were Robert C. Jackson (*left*) of the American Cotton Manufacturers Institute and Wm. Rhea Blake of the National Cotton Council of America.

industry was marked by extreme price weakness in 1951-1952 with consumption at 9.2 million bales.

So far, consumption performance is only slightly better than a year ago, but the underlying situation is healthier, Mr. Jackson stated. Increased shipments from stock and a highly favorable stock readjustment has been created at all levels of processing and distribution. The clogged inventory situation existent prior to July has been cleaned up and the necessary foundation for a sound recovery laid, the meeting was told.

Continuing, Mr. Jackson outlined what the results of the election of a new administration might mean so far as taxes, controls and government spending were concerned. He expressed the view that in time an economic readjustment would take place based on the idea that an administration with a new slate would be in office.

He hoped that the administration would realize that pri-

vate enterprise must be encouraged to stimulate its activities. "A more favorable attitude toward business, tax-wise and otherwise, can provide the courage which business needs to move ahead. Given any such encouragement, any decrease in government pump-priming can be more than offset by honest-to-goodness business stimulation," Mr. Jackson stated.

"The country as a whole is going to have more of a buyer's market and there will be more of an emphasis on giving real value," Mr. Blake told the joint convention of the Carded Yarn Association and the Southern Combed Yarn Spinners Association.

Labor, agriculture and management will find themselves under stricter tests of value than they have experienced in many years, Mr. Blake stated. Business will have to sell harder to stay in the black; people are going to scratch harder to hold and find jobs, to move merchandise, market produce and sell cotton. Value will hold rein as the public becomes more discriminating in getting more for its money, the convention heard.

Mr. Blake outlined the progress made in the use of scientific cotton testing devices, the dealing with cotton neps, the closing in on the problem of tar spots, and the techniques of cross breeding one species of cotton with another.

"When I try to think, in my layman's way, of what has been done for cotton in this whole vast field of quality over the past ten or 15 years, I believe I understand a lot better why it is that this age-old fiber, on which our spinning industry was built, has continued to survive the storms of competition so well.

"It is no accident that the average annual consumption of cotton by our domestic mills has been about 50 per cent higher since World War II than it was in the 1930s, the 1920s, or in any previous decade of our history.

"It is no accident that in the textile depression of 1951, when the chips were really down and every fiber faced a buyer's market, cotton stood up comparatively well. And when we consider all the combined progress that has been



Strictly non-professional entertainment during one of the cruise events was provided by (*left to right*) Dick McPhail of Watson & Desmond, S. H. Harris of Standard-Coosa-Thatcher Co., a man so well disguised he couldn't be identified, and Fred Smyre of A. M. Smyre Mfg. Co.



The best that can be said about this shipboard pastime is that string is used, which in turn broadens the market for textiles.

made and is being made in building up its value, I'm sure we can say that we have one of the most rapidly improving fibers on the market," Mr. Blake concluded.

George W. Boys of Green River Mills, Inc., Tuxedo, N. C., retiring president of the Southern Combed Yarn Spinners Association, suggested that mill men maintain labor costs at an absolute minimum by installing "the most modern labor-saving equipment," keep overhead down by studying and eliminating all unnecessary non-productive labor, and keep finances as liquid as possible "so that you can weather two or three years of bad times."

"There are many installations that can be made today that will return from 50 to 100 per cent on the investment," he remarked. "Remember that someone once said that business was never so bad but that some mills could make a profit or never so good but that some would lose money."

Halbert Jones of Waverly Mills, Inc., in his address as retiring president of the Carded Yarn Association, declared that the areas of merchandising and product research development provide the industry with its greatest opportunity for progress in the years ahead.

"We as manufacturers are cost conscious and we know the need of keeping our plants in the most efficient operating condition. The techniques which we have developed for the control of our manufacturing and in balancing our production with demand give to us sound bases for a merchandising program which can be most rewarding to every spinner," Mr. Jones said.

Mr. Jones, the retiring president, was elected vice-president of the Carded Yarn Association, succeeding D. R. LaFar, Jr., head of the LaFar group of mills in Gaston County, North Carolina, and E. Owen Fitzsimons of Charlotte was re-elected executive vice-president and treasurer.

Luther Dana of Dana Warp Mills, Westbrook, Me.,

was elected to the board of directors, succeeding his father, Philip Dana. The following were re-elected to the board for three-year terms: W. N. Banks, Grantville (Pa.) Mills; G. P. Barnwell, Bibb Mfg. Co., Macon, Ga.; Hyman L. Battle, Rocky Mount (N. C.) Mills; R. C. McCall, Pinnacle Mills, Easley, S. C.; Frank Pate, Wehadkee Yarn Mills, Talladega, Ala.; and A. K. Winget, Mt. Holly, N. C.

The new president of the Southern Combed Yarn Association, Mr. Hazelwood, was advanced from vice-president of the association. R. Barton Hayes, Caldwell Cotton Mills, Lenoir, N. C., was made first vice-president, and Alfred S. Robinson, Rex Mills, Gastonia, N. C., was elected second vice-president; M. T. Cameron, A. M. Smyre Mfg. Co., Gastonia, was re-elected treasurer, and C. C. Dawson of Gastonia was re-elected executive secretary.

The following were elected to the board for three-year terms: S. H. Harris, Standard-Coosa-Thatcher Co., Chattanooga, Tenn.; Robert J. Gurney, Gastonia Combed Yarn Corp.; A. G. Myers, Jr., Textiles, Inc., Gastonia, and Donald R. Jonas, Johnston Mills Co., Charlotte.

The request that the National Cotton Council make a study of the price of long-staple cotton, particularly as it affects consumption, was submitted by the Southern Combed Yarn Association.

Several opinions were expressed that the government had already gone far enough in its stockpiling program in long-staple cotton, and that the stage had been reached where the needs of the spinners should be considered. Although there is no information on the subject, the impression is that the government stockpile of long-staple cotton for military emergency use is now in the neighborhood of a quarter million bales. The council study would also develop what the government support price should be to get the desired consumption.



## Working Smarter — Not Harder

By E. G. MICHAELS, Henderson, Lindsay & Michaels, Greensboro, N. C.

IT IS sometimes possible to stave off the economic law of survival by artificial means. We recently have seen examples of this in the textile industry when the government attempted to designate certain new England locations as "emergency areas" and award government contracts to them not on the basis of competitive bids but on the basis of need of orders. Such action would of course have eaten at the very core of our free enterprise system. Even such artificial support, however, is at best only a temporary measure and the inexorable law of survival economically reasserts itself in time.

When faced with the operation of this survival law an industry or a company who would intelligently face the problem and take some action in connection with it directs attention both externally and internally: (1) *Externally*—Here the activity is in the area of bringing out new products, developing new uses for old products, and by promotion and advertising to educate the buying public in the

A feature at three of the individual meetings of the Southern Textile Association held this past Fall was presentation by Mr. Michaels of a film depicting mill jobs that have been improved by overseers and second hands in textile plants in the Carolinas. The jobs cited were presented in a before-and-after manner, the film first showing how they were done by the old method and then the way they are being done by the new method—all pointing to the principle of 'working smarter—not harder.' Mr. Michaels' introductory remarks for the film are presented here, followed by a composite selection of questions from the three audiences, and his answers.

greater and more intelligent use of its product. Also in many instances the outside action takes the form of price relief activity. (2) *Externally*—Here, of course, the goal

### **Eastern Carolina Division, S.T.A.**

The meeting of the Eastern Carolina Division of the Southern Textile Association, held Oct. 18 in the recreation building of Erwin Mills, Inc., at Durham, N. C., was the first occasion this Fall that the Henderson, Lindsay & Michaels film was shown to an S.T.A. group. This meeting was presided over by the division chairman, S. G. Riley, Jr., superintendent of Pilot Mills Co., Raleigh, N. C. Following Mr. Michaels' presentation of the film, those present went on group tours of the various Erwin Mills operations in Durham.

is the improvement of efficiency and quality and the reduction of waste and cost.

Fundamentally there are two ways to reduce the unit cost of the product manufactured: cut wages, or increase productivity. If the industry or company decides upon the more positive approach of increasing productivity there are two ways in which it can be brought about: by technological improvements (new machinery, equipment, buildings) and by industrial engineering (improving the manufacturing and work methods). It will be recognized that these are the two fundamental ways in which it is possible to work smarter (and more productively), not harder. My remarks will deal with the industrial engineering approach.

An organized approach to improving manufacturing and work methods is not a disguised stretchout. It is not a means of getting people to work harder. It is instead a way of helping them work smarter. It is work simplification. Most all of you are engaged informally if not formally in a program of work simplification and cost reduction. An organized approach to work simplification is just as productive of cost reduction as is an organized approach to a cost system productive of accurate cost determination useful in forecasting budgets, prices, etc. Such an organized approach to working smarter, not harder, goes under many names. The most accurate technical designation is industrial engineering. The techniques generally used include: motion and time study; job evaluation; wage incentives; methods engineering; machinery analysis; supervisory training; statistical quality control.

The industrial engineering approach says: (1) let's work smarter, not harder; (2) let's do so by utilizing our present machinery and equipment insofar as we can; (3) where necessary let's use industrial engineering to tell us how we can best spend our money for new machinery and equipment and be sure to change our methods so as to get full advantage of our new tools.

I am reminded of an incident in which we were involved recently where a spinning and weaving mill in South Carolina was considering the expenditure of approximately \$250,000 for some capital equipment on their spinning frames. According to the equipment manufacturer, this expenditure would allow them to increase their spinners' work loads from an average of ten sides per spinner to 14 sides per spinner, without requiring the spinners to work any harder.

The president of the mill asked us to study the manufacturing and work methods as they were being applied to his present equipment and see if the work could be done smarter using the machines and equipment he already had.

The net result was that he was able to make such methods and job conditions improvements—that he ended up with his spinners running 16 sides with the existing machinery. The savings that would have accrued from the expenditure for the capital equipment were impressive—\$50,000 per year. Hence, it would have taken five years to pay for the equipment. The savings accruing from the study of the existing methods amounted to \$45,000 per year. It was \$5,000 less because approximately one-fourth of the \$60,000 total savings was shared with the operators in the form of increased earnings. There was no provision for increased earnings in the new equipment proposition. The cost of realizing this savings was more than paid for within six months, not five years; and the spinners did not have to work any harder.

The phase of the industrial engineering program which is most directly productive of increased productivity and/or decreased unit costs is that phase of the program which analyzes and improves work methods. Frequently for training purposes we take movies of the before-and-after methods, showing the type of thing that can be done with a careful analytical approach to work methods. Producing more is the result of working smarter, not harder. Many of these ideas that are shown by film were developed by supervisors as part of the work simplification given them. Such training is an integral part of a sound program of industrial engineering and is a means of soliciting the supervisors' interest and co-operation in the program.

An organized approach to analyzing what the man is doing while the machine is running, as well as what he is doing while it is idle, almost without exception produces significant cost and/or quality improvements. I remember not so many years ago that one man and a helper used to run one slasher. Over a period of time more automatic controls were built into the machine. The machine itself could run faster, a better job of getting the size on the yarn and drying it as it came over the cylinders was done. Time studies of the men and machines in one mill resulted in a group of three operators and two helpers running a battery of five slashers. The slashers themselves are producing more yarn. If the same ten people had been left, there would have been a considerable unit cost reduction because of technological improvements on the machines. Not satisfied with that, however, this manufacturer went after the analysis of the work performed by the men under the improved conditions and cut his labor cost almost in half again.

Strong historical precedents are indeed a problem. It

### **Piedmont Division, S.T.A.**

This Fall's meeting of the Piedmont Division, Southern Textile Association, took place Nov. 8 at the North Carolina Vocational Textile School in Belmont. The program featured, along with Mr. Michaels' presentation, addresses by Robert G. Sharpe and Herbert C. Olsen, which are published elsewhere in this issue.

As the meeting ended, H. Cleon Estes, general superintendent of Pacific Mills, Rhodhiss, N. C., was elected chairman of the Piedmont S.T.A. He succeeds Marshall H. Rhyne, general superintendent of the Chronical-Imperial-Stowe Spinning group of mills at Belmont, who had served as chairman for the two previous years.

# New Pickers for Old

Your old pickers can be rebuilt exactly like new machines. The basic design of a picker has not changed in more than 50 years, and therefore a thoroughly modern picker can be built right into the old frames at a big saving in cost. The old frames are valuable, and are just as good as new ones.

Where it is not feasible to send your pickers to us for rebuilding, we will exchange them for rebuilt pickers of the same model. Our truck delivers a new picker at your plant and takes away an old one. The new picker can be making laps the day after it is delivered.

Where pickers do not need complete rebuilding, but should have a thorough overhauling, this work can be done right in your picker room with one of our skilled machinery erectors in charge of the work.

We keep a large stock of picker repair parts always on hand, and fill repair orders within 24 hours after their receipt. In an emergency, telephone us in the morning and you can have the picker repair parts at the mill the following day, if you are within about 500 miles of Greenwood.



was a problem in the slasher job in the weaving mill I just mentioned. A program of helping people work smarter not harder requires the co-operation of the entire supervisory group. Hence part of any well organized program of this sort includes supervisory training in work simplification or methods improvements. Formally and informally an industrial engineering program of work simplification designed to help people work smarter and not harder is largely a selling and educational job. The human problems are larger and more difficult than the technical problems. There is no easy, glib, answer to this. Some pointers that other companies have used successfully are:

(a) Picking a good time. Many companies can honestly say to their employees: "If we don't get our labor costs down by increasing our productivity, reducing our waste, and improving our quality, we are not going to be able to stay in business and furnish jobs."

(b) The adoption of reassuring policies when a program of this sort is initiated is of great help. By this is meant using turnover and transfer, not discharge, to absorb any excess staff; guaranteeing past earnings during a trial or training period; organizing the training in new methods on a sound basis and giving the employees faced with this problem adequate time to adjust themselves to the new procedures, etc.

(c) Fairly and openly discussing the results of the program as it progresses. This of course is where the formal and informal training of the supervisory group is essential.

(d) Sharing the savings with the employees in the form of increased earnings.

(e) Guaranteeing no rate cuts except as new equipment or methods change the job.

Working smarter, not harder, must be a continuing program. It could well be the difference between a plant operating in the black and operating in the red. Though a great deal can be done along this line in an informal manner, experience has proven that an organized approach is more productive.

Let us remember two facts in connection with any such program. First, it increases productivity by helping people to work smarter, not harder; second, it includes the overseers and the second hands. Any program which tries to side track the overseers and second hands and to handle improvements in work methods and that type of thing without their assistance falls flat on its face.

Ninety per cent of the cost of everything we use is labor. In the textile industry the percentage is somewhat more than that. Cost is one base on which we get business. Quality is another. Improvement in work methods is one primary way of reducing costs. For years men in textile supervisory jobs have been doing a good piece of work in that respect. The only thing I am suggesting is that I think we can do a better job with an organized approach to the matter of improving methods. Working smarter—not harder—is one way of approaching the job—asking questions, asking how and why and when.

*Question:* If you have a surplus of spindles—more than you need to get production, and the job load on a particular frame is 30 spindles, would you find it advantageous to give the operator more than 30 spindles?

*Mr. Michaels:* The basic theory is that if you have excess machine capacity you strive for greater machine utilization and less labor efficiency. If your machines represent a bottle-neck and you have to

strive for maximum efficiency on the machines, you have to go the other way. To use a ridiculous extreme, one man on one loom would be the ultimate in efficiency. But if you had 500 looms in one room you could assign one man to all of them, but your efficiency would go to heck. Answering your question generally, I would say yes. From our experience in working in many different mills we find that mills, just like people, have personalities; and generally a mill expresses the personality of the management and supervisory personnel in that mill. You will find one mill doing a top-notch job on the materials handled; and then you may look at another mill and say: "That is 50 years behind." Yet that second mill can point out some ways in which the other mill has not caught up with it. Working smarter and not harder is concentrating our attention on our own jobs by making the best use of the tools and equipment we have, by analyzing them. In order to make a sound move I think you should have time measurement as your basis when you go to changing spindle assignments and loom assignments and rates.

*Question:* As I understand, you do not have to measure this with a stop watch. Is that right?

*Mr. Michaels:* Yes, but if the improvement is important enough to bring about a job change then we have to determine how much time is saved, and so forth, and there has to be some measurement made.

*Question:* You know that some of us do not like stop watches—that is, our people do not?

*Mr. Michaels:* I know that. But I know a man in South Carolina who is spending \$18,000,000 a year on his labor, and he is not measuring that at all. He spends an awful lot of time, however, measuring what he is getting in his raw material, for which he spends a far smaller amount. I think it makes sense to measure what you are getting for your labor dollar, too. The stop watch scares a lot of people; automobiles do, too. You can get in your car and drive it foolishly and scare others, and you can do the same thing with a stop watch. In reality it is getting an analysis, a measurement. We do a lot of measuring in industry now, whereas years ago we did not do it. You can measure the amount of light in your plant and express it in a number; you can measure the amount of moisture in the air and express it in a number. You can carry out an organized program of working smarter and not harder, or work simplification, and never use a stop watch. You can make a lot of improvements and save a lot of money. Maybe it is because we make our living (in part, at least) with that awful instrument, but we feel that it is better to find out, by measuring, how much time you save.

There is a method by which you can determine the amount of time saved and not use a stop watch. The best known time-determination system is BTM. We happen to use a later one that we call BMT, timing the basic movements of the human body without having to use a watch.

*Question:* Do you run into any trouble in teaching the operators?

*Mr. Michaels:* We ran into the familiar trouble of folks who had been doing a thing in one way for 15 years and trying to teach them a new method. There was a change in motion pattern. The other trouble we had was more difficult to overcome, and that was their way of thinking about the job. The girls had been accustomed to thinking that they had to dash immediately to a spindle that was down. In the new method they had some excess machine capacity; and they could afford to have 55 per cent, I think it was, instead of 70 per cent efficiency on the winders. That was the hardest thing to overcome, to get the girl to continue on the cycle rather than dashing away. It took quite a while to get that overcome.

Now, the ideas on improving those jobs are nothing revolutionary. There is nothing that any of us could not think of if we take the time to analyze the job in an organized fashion. It may be that when you look at the improved method you can say to yourself: "Golly, I am doing better than that now." I caution you not to extend that thinking too far. It is very easy for us to make one little improvement in methods and then feel smug and not try to improve the job further. Some machine efficiency was lost on the winder operation just mentioned, but the cost was substantially reduced, taking into consideration the labor cost and everything else.

*Question:* Was there any less fatigue?

*Mr. Michaels:* The question has been raised as to whether the girl working on a battery was working any harder because of using both hands instead of one. But I think you will find there is less

fatigue when both hands are working rather than one hand working and one holding. Another idea, I think, is wrong on fatigue; and that is that a person gets less tired standing still than moving around. A change seems to help ward off fatigue.

*Question:* I think we can understand that there is totally less fatigue; but still, in setting up one of those jobs, someone will have to be arbitrary and say: "Do it our way." Don't you have a problem there?

*Mr. Michaels:* I think that whenever you change people's ways of doing things you have a problem. You can go at the thing in different ways. It is fundamentally a selling job, yes, and it is one that requires a devil of a lot of patience and ingenuity and imagination. I remember one job where the weavers were on 80-square print cloth and the job assignment was to be increased from 72 to 108 looms. That was a rather substantial increase; and the first reaction of the supervisors, when it was discussed with them, was that it could not be done, that the weavers would walk themselves to death. So this is what was done there. The supervisors worked out a scheme by which they had the weavers tend their 72 looms and then sit down; they did not let them do any more work at all for the length of time that would have been required, on a proportionate basis, to tend the other 36, which would have been the 108 assignment. Then they checked the effect on the efficiency of the 72 looms and the effect on the quality. They did that for a week, and the check showed that the weaver had 48 per cent idle time, that the efficiency suffered 0.5 per cent, and that the quality was not affected. So they went into the 108 looms; and that finally, I think, shook down to a loss of 1.0 per cent loom efficiency. When you weighed all the elements of cost that meant it was worth while to lose 1.0 per cent machine efficiency and get almost 30 per cent more labor efficiency.

I do not believe there is any answer to the question of how to get new methods accepted enthusiastically right away. We used to work on the efficiency basis. Our way of working then was to come in and study the job and give the superintendent a report on what he ought to be doing instead of what he was doing. I do not suppose we win many popularity tests now, but we did not win any in those days. There is no sense in coming at it that way because the people who have to work the job are you fellows—the superintendents and overseers and second hands; you are the people who are going to work it in the future. Therefore it seems to me that it makes an awful lot of sense to come at the problem of method improvement with an organized approach from overseers and second hands. A lot of times the overseer or second hand will run into a problem where he needs more information—information on time measurement, say. That is where the time-study man comes in.

*Question:* You say you have to use an organized approach to the overseers and second hands. Don't you have to use it with the employees, too?

*Mr. Michaels:* You surely do. You have to get your superintendents and overseers and second hands and foremen into training classes and teach them how to analyze the jobs. When you know a job inside out it is very hard to analyze it. It is very easy for us to keep something that is not quite right, and then over a period of time we get so used to that method that we do not think of trying to improve it. It is a good thing to take a movie of a job and then get the supervisors in the department to look at it. You certainly do have to use an organized approach; you have to get your employees—your operators—on the job or you are sunk.

*Question:* I should like to ask if you have any figures on this. For instance, in introducing some of the labor-saving devices, and so forth, to employees in order to economize on your labor cost you very often get a drop in production. If you get a drop of one per cent in production, what percentage of your labor cost would you have to save to warrant that one per cent drop in production? We are all faced with that problem. We have done it with cheaper cotton and have been faced with a drop in production, so we do not know whether we have saved any money or not. The same thing applies to the spread-out in the weave room. Some say it is better to get machine efficiency than employee efficiency. Where is the breaking point there?

*Mr. Michaels:* You cannot figure it. The cost of the machinery involved and the overhead on that particular cost versus the improvement and the reduction in labor-unit costs all have to be measured against each other, and I do not believe there is any set rule. Is there anybody here who has fiddled around a lot with that problem who can help with this?

*Mr. A:* There are different schools of thought. Some people say:

### South Carolina Division, S.T.A.

A "variety" program was presented to those in attendance at the meeting of the South Carolina Division, Southern Textile Association, held Nov. 15 in the Wade Hampton Hotel in Columbia. In addition to the "Working Smarter—Not Harder" film and discussion, an address was made by Charles A. Gibson (text of which is published elsewhere in this issue), who in addition to being president of the South Carolina Textile Manufacturers Association is president of Calhoun Mills at Calhoun Falls and F. W. Poe Mfg. Co., Greenville; also, a color movie on Draper loom manufacturing and fixing was presented by Walter M. Brice of Spartanburg, manager of supply sales for Draper Corp.

James A. Chapman, Jr., manager of Riverdale Mills, Enoree, is chairman of the S. T. A. South Carolina Division.

"I would rather give a weaver 100 looms on 80-square and let him get 60 per cent production rather than give him 70 looms and get 92 per cent." Which is better?

*Mr. Michaels:* It is hard to say. Generally speaking, it is better to get maximum machine production. You have to adapt it to your own conditions. To come back to the question, you can settle for a set efficiency and certain loom assignments, or you can vary loom assignments and get less efficiency. From the cost standpoint the latter is better.

*Question:* Can you apply that to the spinner's job?

*Mr. Michaels:* Yes. We have just done a spinning job in South Carolina. Work loads are so variable that I really should not speak of them. The same principles apply to spinning. In this mill in South Carolina the manager bought some low-grade cotton, and the spinning room was badly fouled up as soon as it hit the spinning room. The timing was bad, because the increased assignment hit the spinning room at the same time that bad cotton hit it.

The overseers and superintendents and second hands are the key folks. Suppose you have an operator who is doing a really good job and the time-study man comes in and studies that job and reports to the supervisor that certain improvements can be made. With whom is the supervisor going to take sides? I guess you know the answer to that. So it makes sense if the supervisor makes part of that team, and it works more effectively when he is aware of some of the analytical processes of measuring work.

In the South Carolina mill I mentioned they decided that from the standpoint of saving money it made more sense to have some re-juggling of the cleaning duties and so forth. The spinner works on the principle of time-cycle control, putting up ends say for 20 minutes and then at the end of that time working on her assignment of cleaning and then going back again to putting up ends.

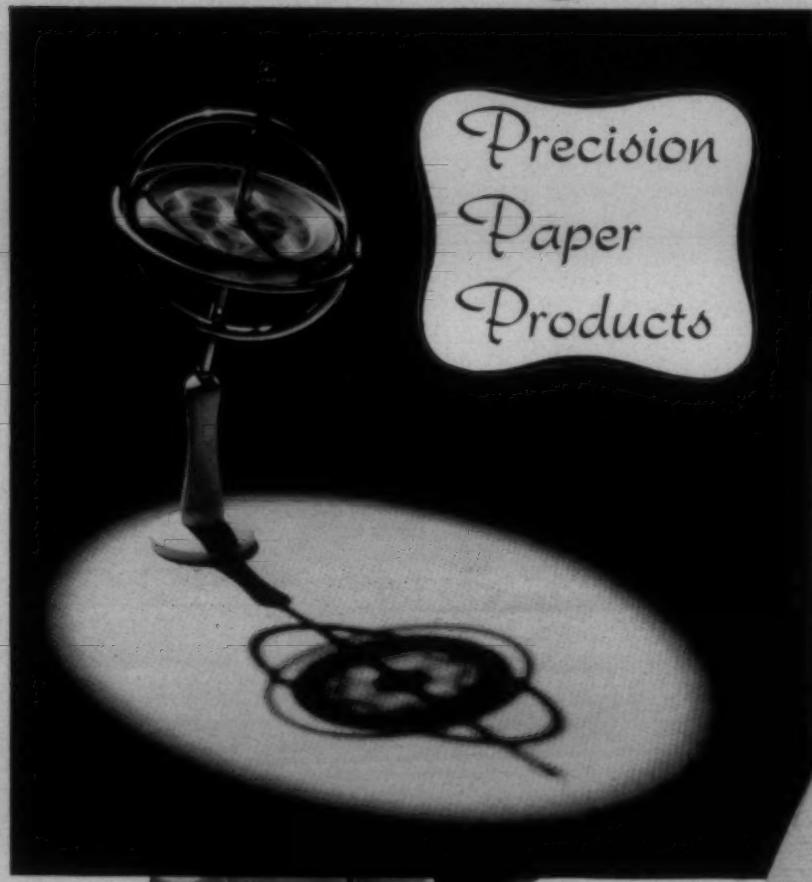
Some people think the way to save is by figuring out the idle time in the plant and then assigning work to fill up that time. That is not working smarter but working harder. You cannot make real savings that way.

One more example. On a card room job in one of the plants that is being studied now the man who is studying the job had the idea, which is perfectly logical, that instead of carrying the laps individually the card tender had need of a lap truck. Did he suggest that? No. Before he began studying one of the card tenders he told the operator he would be glad to show him anything he wanted to see. This was a four-hour study. At the end of the time the tender came up to him and said: "I want to take you up on that. I should like to see what you have put down on that sheet." In that four-hour period the card tender had done 42 minutes of walking to do 18 minutes of creeling work. That shows in the study, of course. When it came to that point the observer said: "Is there anything you think of that can be done about that?" "Sure," said the carder tender; "you can get me a truck so that I can carry several of these laps at one time instead of one." So they are going to make the trucks, but now it is the card tender's idea and not the engineer's.

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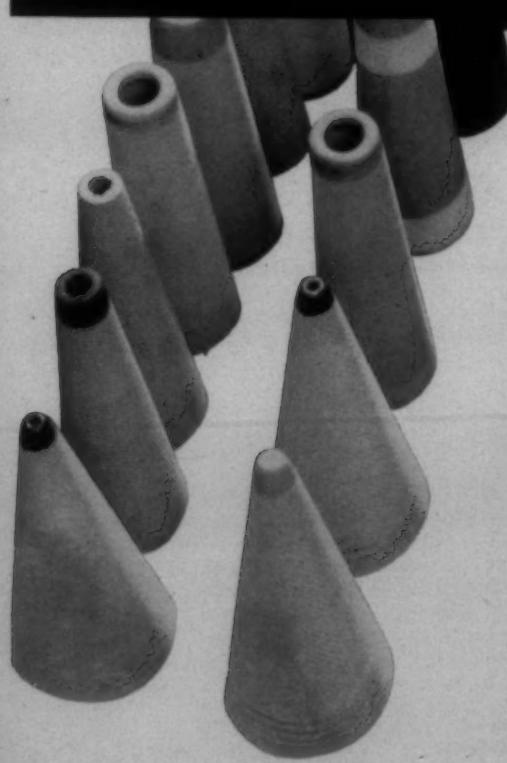
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## Opening, Picking, Carding & Spinning

# Virginia-Carolina Mill Supervisors Look At Some New Aspects Of Carding

THE Northern North Carolina-Virginia Division of the Southern Textile Association held its 1952 Fall meeting Oct. 25 at Hanes, N. C., where the members were guests of the management of P. H. Hanes Knitting Co., which operates a 45,000-spindle yarn mill at Hanes.

A feature of the general meeting was an address by Judge Roy L. Deal of Winston-Salem, N. C., an authority on Communism whose subject was "The Red Aristocracy."

Howard Barton, superintendent of the Fieldcrest Mills rayon plant at Spray, N. C., was elected chairman of the division to succeed Glenn R. Ward, superintendent of Highland Cotton Mills, High Point, N. C. Mr. Ward had served as division chairman for two years, and Mr. Barton had for some years been secretary of the division. Others elected were: *vice-chairman*, M. A. Carpenter, assistant superintendent of Erwin Mills, Cooleemee, N. C.; *secretary*, H. W. Buchanan, superintendent of Erlanger Mills, Lexington, N. C.; *assistant secretary*, John D. Scott, superintendent of the Cone Mills Corp. Proximity Plant, Greensboro, N. C.; *program committeemen*, Cecil Squires of Fieldcrest Mills at Leaksville, N. C., and Charles H. Ward of Highland Cotton Mills.

Following the general meeting and prior to the luncheon at which P. H. Hanes Knitting Co. was host, group discussions of major textile manufacturing subjects took place. The carding discussion, led by C. C. Whitt, overseer of carding for Cone Mills at Greensboro, is herewith abstracted.

*Chairman Whitt:* A great deal has been said in the last two years about waste in the opening room and on the cards, and much has been said about the perforated screen. I should like to have some of you express your views about waste in the picker room and tell us what your experience has been. As you know, the screen ordinarily has ribs on it. But in many mills the new perforated screen is being used. It is a good waste control program, and I should like to know what the experience has been.

*Mr. A.:* Mr. Whitt, we have a few. We put in the first one about five years ago. I am actually sold on it myself. Of course, some of the rest of the boys might not agree with me, but I am sold on the perforated screen. I think it does a good job in our weaving yarn mill. We use a vacuum cleaning system.

*Chairman Whitt:* I know that the perforated screen does aid a lot in saving fiber; I know that a lot of good fiber is kept out of the fly by using the perforated screen. But have you been able to tell whether or not it has hurt you? That is, has it caused stuff to stay in your stock that should be taken out?

*Mr. A.:* I do not think so.

*Mr. B.:* I know you save that waste, but I should like to know if the fiber you do not take out is hurtful to you. In spinning it did not affect our ends down per 1,000 spindles; it ran just as well as ever. If it did hurt anything I could not tell it.

*Chairman Whitt:* There has been an exhaustive study of this

through the quality control department, and I read that there was definitely no sign of any ill effect from it and that it showed a nice saving in spinnable fibers. There is no question that it does that. I have a few in my mill, and there is no question in my mind that they do save spinnable fibers.

*Mr. C.:* You are saying that what it does is decrease the fly waste. Does it increase the motes?

*Chairman Whitt:* You have a bunch of stuff there that should come out, if you have very dirty cotton, and it might. You have very light fly.

*Mr. C.:* It makes a richer waste? That is what you have?

*Chairman Whitt:* Yes. I am interested in the question whether, if we save these fibers there, they will ruin us down the line. If that happens, then the perforated screen does not save us anything. But if it saves the fiber and the quality of the yarn and of the cloth is just as good, then it will save the mill a lot of money.

*Question:* Is there any difference in the flat strips?

*Chairman Whitt:* I have not myself noticed any difference.

*Mr. A.:* In our quality control it shows up well. It really helps.

*Chairman Whitt:* I think it is a question worth any man's consideration and serious thought because if we can do it, if we can have our cake and eat it, too, then it will be fine. If we reduce the fly we can save the company a lot of money. It reduces the fly, I would say, approximately 25 per cent.

*Question:* Do you have the greater number of them on the warp or on the filling?

*Chairman Whitt:* All we have are on warp.

*Question:* How often do you clean those screens? Do you clean them on the same cycle as you do the bar screens?

*Chairman Whitt:* We have a system at our mill such that we get our screens cleaned approximately every 20 days. Some folks have said that sometimes you can run a screen there for three or four months all bunged up and never know it until you pull it out. I know of one mill that had some screens that gave them quite a good deal of concern, and they got away from them. They could hardly run the screens they had, and they changed, and they got out of the doghouse. The first screens stayed dirty, and the fibers hung on there, and they would not shed.

*Question:* What would you estimate the saving to be?

*Chairman Whitt:* I heard of one mill which showed a saving of something like 54,000 pounds of cotton in one year by going to perforated screens. It was not a big mill. They were sure they had saved that much cotton in a year's time by going to the perforated screen.

*Mr. A.:* If I were going to make an estimate on that I would say the saving would be 35 per cent.

*Chairman Whitt:* Perhaps I was a little low when I said 25. I was hoping we would get this thing out in the open here and talk about it and that you would tell me if I am wrong.

*Mr. D.:* What you are saying, Mr. Whitt, is that it makes the card more selective and very few fibers go through.

*Chairman Whitt:* Only the very short ones.

*Mr. D.:* Have you had any experience with the new roll they are talking about?

*Chairman Whitt:* The Saco-Lowell fringe roll? It sits up close to the licker-in and is wound with wire something like the licker-in

## OPENING, PICKING, CARDING & SPINNING

wire. It revolves slowly, and they claim there is a combing action there and it cleans the cotton better. The man that talked to me developed this fringe roll, and he claims it will increase the production on the card.

*Mr. E:* Does anybody have a fringe roll on the picker?

*Chairman Whitt:* We have. It prevents, I think, large lumps from being left in the lap. When you examine the lap it looks as if it is torn up a little better. We have 15 now.

*Mr. F:* Do you get more waste at the picker?

*Chairman Whitt:* No. You see, you have the grid beaters.

*Mr. F:* It breaks up the cotton better?

*Chairman Whitt:* Yes, breaks it up better. When the cotton comes to where the fringe roll is, it might be 20 ounces to the yard. It is not rolling; it is crawling. That fringe roll is simply feeding the cotton to the feed roll; it is just a little licker-in. The cotton is being pulled across, and it is being broken up better.

*Mr. F:* It slows it up?

*Chairman Whitt:* Yes.

*Question:* Is there any effect on the neps?

*Chairman Whitt:* It possibly helps the neps a little bit. The cotton is torn up better, and the card has a chance to do a better job. It breaks up the cotton; there are not any lumps in it. That is my version of a fringe roll on the picker.

*Question:* Would it be in order, Mr. Whitt, to have a show of hands as to how many have used the fringe roll on the picker?

*Chairman Whitt:* How many of you are using fringe rolls on your pickers? About five or six. We should like to hear from you what you think of it.

*Mr. E:* We have not been able to prove any advantage to it. We have had the Saco-Lowell men there to look at it. We can take a lap and pull it apart and cannot tell any difference in it, and neither can the Saco-Lowell men. It finally boils down to the fact that we think it is better. That is why I asked you a while ago if you thought that. We put the lap on the card and cannot tell the difference. We have had the Saco-Lowell men there, and they cannot tell the difference.

*Mr. G:* We find that it is very damaging when the cotton runs out.

*Chairman Whitt:* It will run out once in a while; don't fool yourself about that. The fringe rolls we have are on the brand-new pickers, and we are having 24 rebuilt and are putting the fringe roll on them.

*Question:* If there is an advantage in having it, wouldn't there be a greater advantage if you use it on the filling? You say you use it on warp, but wouldn't there be a greater advantage by using it on the filling?

*Chairman Whitt:* When we finish we shall have it on our filling.

*Mr. A:* It seems to me the only way that you can tell very much is if you get the results from a picker and then take the same picker and put the fringe roll on it. Then you might be able to tell if you get some advantage, or not. Ours are rebuilt all over. I do not see too much advantage, but I do see some.

*Chairman Whitt:* I believe you will have longer life on your card clothing if you use the fringe roll. I really believe that, if you use it over a period of years, you will find that the card clothing will stand up better.

*Mr. H:* I should like to ask how high the relative humidity should be.

*Mr. I:* I should say as high as you can run it, until you get cotton sticking in the humidifiers. Up to about 60 or 65 per cent. We had an experience to prove that a few years ago, when half of our humidifiers were out of order. It has been pretty well demonstrated that if you have pretty good moisture in the card room, to lay those fibers, and have one-process roving, the results will be better.

*Chairman Whitt:* Two or three years ago we had a tremendous lot of trouble with filling. We did everything we could think of, and then decided we would step up the humidity a little, and that helped.

*Question:* Does anybody here make knitting yarn? I should like to hear from someone on that. What humidity do you run?

*Mr. J:* We have a humidity, I think, of 55 per cent.

*Question:* I should like to bring that down to combing. What do you find best on your combing?

*A member:* Around 55.

*Chairman Whitt:* You will find you get in trouble if you go above 55. It will wind around the steel roll.

*Question:* What kind of cots are you using?

*Mr. K:* I am using some synthetic on the front, and then I have some others on which I use synthetics all the way through.

*Question:* Does anybody here run over 55 on carding?

*Chairman Whitt:* My opinion is that you get in a whole lot of trouble if you run too much humidity around your cards; 45 to 50 I think is best.

*Mr. L:* I want to ask the age-old question about roll setting. What do you think is the best increase?

*Mr. M:* One-sixteenth all the way back, except if you have right much bulk coming through on the back you had better open up a little more. We run an eighth of an inch on some stock, and it does not seem to hurt it. If it hurts us we cannot find it. We run all synthetic.

*A member:* If you have a light sliver you do not require a wide setting, but if you have a heavier sliver you need a wider setting.

*Mr. O:* Quite a number of mills, I understand, are getting those high drafts either by new spinning frames or new frames that permit closer setting and are going back to 12 by 6 conventional roving frames and making 5.5 to 6.0 hank roving. I wonder how many in this group possibly are experimenting with it and what results they have had.

*Mr. P:* We have a few frames we have changed to long draft,

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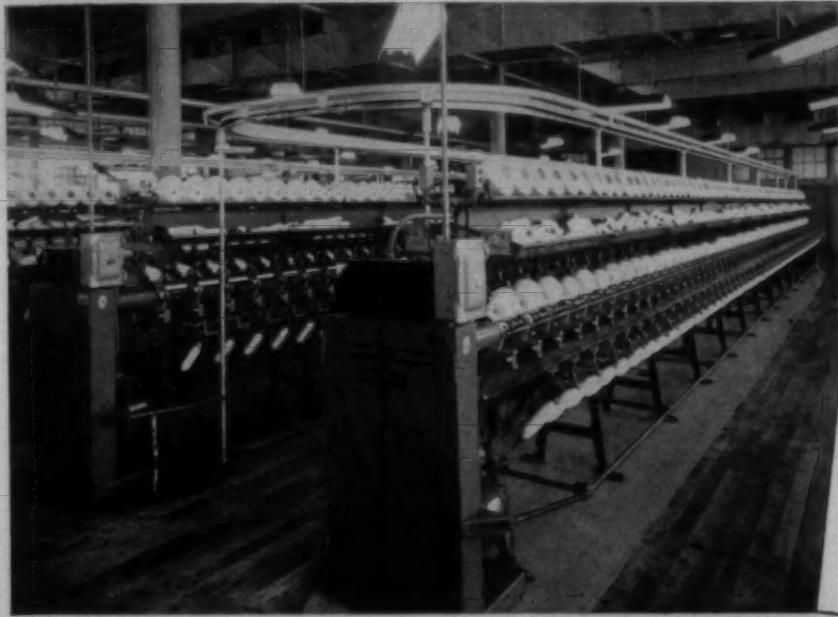
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Look Smart • Be Cool • Feel Fresh

NATIONAL COTTON WEEK

'IT'S COTTON TIME' will be the theme of the National Cotton Council's official poster for National Cotton Week, to be held next May 11-16 for the 23rd year. The 1953 poster (shown above) will be in three colors, featuring a white cotton ball against a yellow background with blue and brown overprinting. It displays the complete Cotton Week slogan, "It's Cotton Time: Pick Cotton—Look Smart . . . Be Cool . . . Feel Fresh," giving emphasis to the first three words. Posters, available in several sizes, and other items in a 25-unit display kit are being prepared for use by retailers of apparel, floor coverings and other household products.

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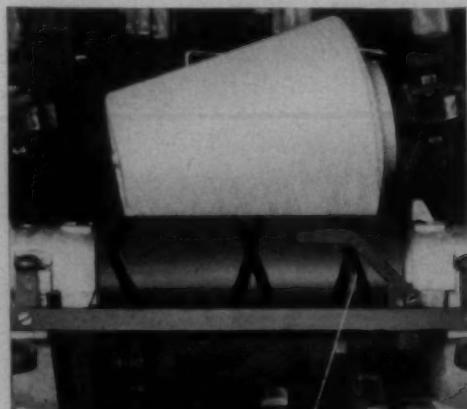
Reports this large cotton yarn manufacturer, "Annual repair parts cost has averaged less than  $\frac{1}{4}$  of 1% of the original investment!"

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and we are drafting 30 on knitting yarns. We found from tests that the yarn is evener, and the breaking strength has gone up, too.

*Mr. Q:* We get a smoother yarn and better breaking strength. All of ours is double creel. Our yarn is all knitting yarn, and we use double creel on it.

*Mr. P:* We have experimented with a draft of 40 on this knitting yarn, too. I have about decided that 30 is about as high as we can go.

*Question:* What staple are you using on that 30 draft?

*Mr. P:* 1 $\frac{1}{2}$ -inch. That is combed stock. It is actually a little longer than that.

*Question:* Can you do that on carded cotton, one-inch staple?

*Mr. S:* We changed from two hank roving to 1.53 and brought the draft up from 15 to 19, and that did not seem to hurt it. That is on carded stock, no combed. It did not seem to hurt it.

*Mr. T:* What is the longest draft on four-roll—combed stock and synthetic roll? We have run up as high as 18. At that time we did not have it tested, but from what could be seen with the natural eye it looked to me like smoother roving.



# Continuous Filament Crimping

By LEO W. RAINARD, Director of Research

Alexander Smith, Inc., Yonkers, N. Y.

THE role of filament yarns from the time of their introduction until the present has been to provide certain types of fabric effects without going through the normal spinning processes. Filament yarns have afforded to the textile industry a convenient, economical, and extremely uniform method of producing silken and sheer effects with the characteristic hand and appearance which one normally associates with the filament yarns and fabrics.

However, where bulk, resilience, and soft hand are the desired characteristics, spun staple has predominated in the synthetic field. If filamentous yarns could be made to function in a manner analogous to the spun yarns, then we have found the missing link in our search to eliminate the burdens imposed by the spinning processes—high cost, tricky controls, and the ever-present problems in the control of uniformity. When a filament yarn behaves like a spun yarn in the ultimate fabric, then the elimination of spinning synthetic staples is a very real and valuable possibility.

The Textralizing process as developed at Alexander Smith, Inc., is, we believe, the first commercially practical method for accomplishing just such effects (with a wide range of synthetics). In essence the principle involves the use of the stuffer crimpler in conjunction with setting agents of various types. The stuffer principle as a method of crimping has been chosen because of its extreme flexibility and the fact that the yarns are not subject to mechanical stresses which may cause extreme filament breakage such as might be expected in gear crimpers which may be slightly out of adjustment. Many setting techniques have been developed, each one unique for the type of fiber that is involved. The present equipment, as picture in Fig. 1 (Textralizing machine for fine deniers), is designed to operate mechanically up to speeds of about 100 to 500 yards per minute. The crimping unit itself is about the size of a package of cigarettes and it is designed to be interposed at the first winding step in normal mill processing.

In practice, referring to Fig. 2 (Textralizing machine, schematic diagram), the continuous filament is fed through the upper saddle and then driven by a set of squeeze rolls into an elongated chamber which has a controlled restriction at the other end. Due to this restriction, the yarn is stuffed into the chamber at a controlled back pressure. By applying

heat electrically to the stuffing chamber thermoplastic fibers may be given a permanent set. The degree of heat is controlled by a thermostat and the heating period is controlled by the speed of the delivery rolls and the volume of the chamber.

The act of crimping occurs between the nip of the rolls and the previously stuffed yarn. As the filament is driven from the rolls, it impinges upon the previously crimped yarn and sets up a column action in a very short element of the filament. The filament buckles under this applied axial load and thus the crimp is formed and then heat set. As can be seen, the degree of back pressure in the stuffer chamber can be utilized to control the amplitude and frequency of the crimp. The diameter of the squeeze rolls

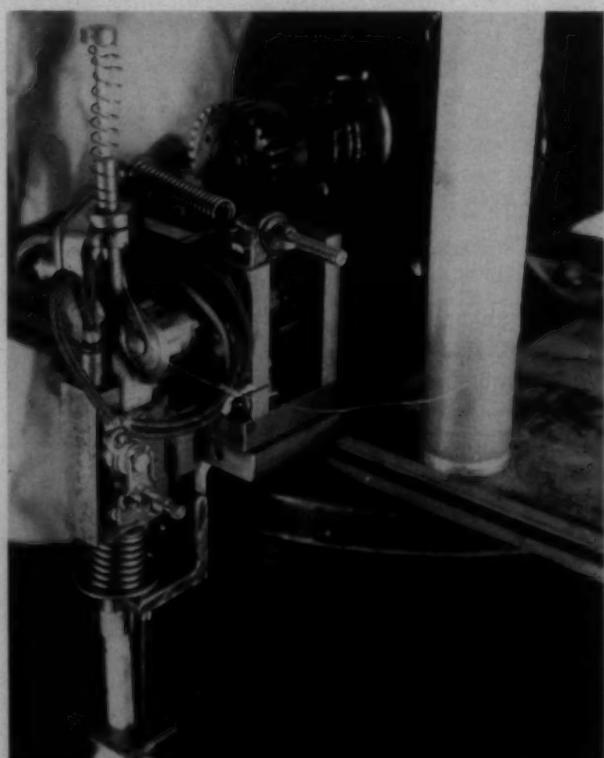
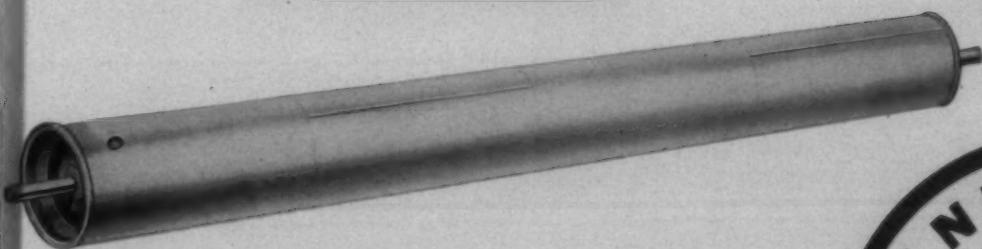


Fig. 1.

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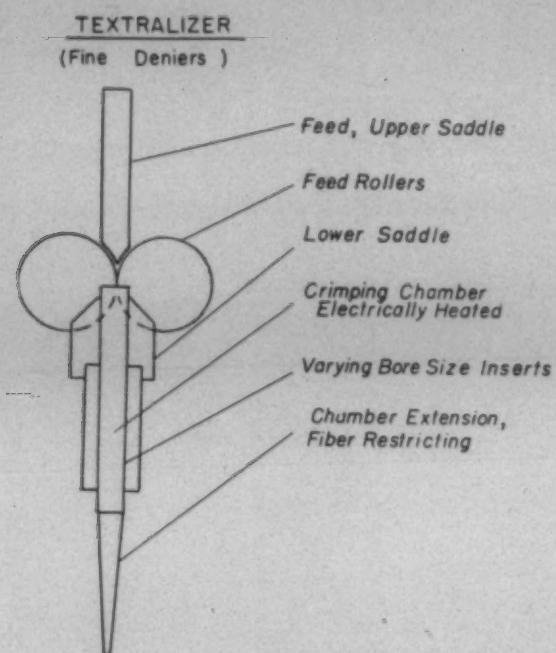


Fig. 2.

will also regulate the amplitude to some degree due to the support given the filament by the apex of the rolls; that is, large diameter rolls will produce a small apex angle at the nip of the rolls and in turn create a relatively coarse crimp because of the length of the lateral support given the filament column by the flanks of the rolls. Conversely, small diameter rolls will have a large apex angle at the nip of the rolls lending less lateral support to the filament and in turn creating a finer crimp for the same back pressure.

Thus the filament Textralizer embodies the ultimate in precision and control necessary for work in the filament field as well as offering a practical method for extremely low cost operation in this highly competitive market. If the crimper were to be interposed between pin and cone, using a Roto-coner, it would operate at 550 yards a minute with appropriate threading and control devices at no extra labor load. The mechanical operating cost would be essentially that of heating the material, if thermoplastic fibers were used, plus maintenance of equipment for only a frac-

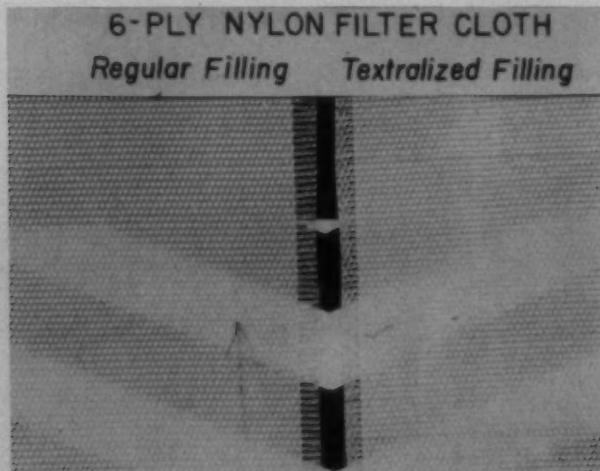


Fig. 3.

tion of a penny. As we said before the economy of Textralizing, assuming that a Textralized filament yarn operates essentially like a spun yarn, lies in its reduction of the major costs of spinning. If we examine a 30s worsted made of staple nylon and compare a corresponding Textralized nylon filament at 200-denier, the spinning costs have been estimated at between \$.75 to \$1 per pound for the worsted yarn and around \$.002 a pound for the Textralized filament. As the counts get finer and finer the cost of spinning per pound begins to mount very rapidly whereas the cost of Textralizing, pound for pound, mounts very slowly as an extra charge, since it is difficult to envisage any textile operation without one winding step where the Textralizer could be interposed. Therefore, one of the elements of filament crimping is direct saving in spinning costs at equal weights.

Another example of fiber weight saving plus improved functional properties in the industrial fabric field is depicted in Fig. 3 (filter fabric, nylon, six-ply). Here we have a filter fabric produced with six-ply continuous filament nylon and a counterpart in which the filling yarns were Textralized filament nylon. The filling portion represents roughly 40 per cent of the weight of the fabric. This is a maximum construction fabric of 11.5 ounces per square yard weight and has a warp and filling count of 51x25, respectively.

Untreated vs. Textralized (Filling)

	Air Permeability Slope K10 <sup>3</sup>	Air Permeability Intercept K10 <sup>3</sup>	Shrinkage Warp %	Shrinkage Fill %	Abrasion Resistance (Labor) %
Untreated	0.496	7.71	9.4	4.9	100
Textralized	3.159	7.95	8.7	2.1	59.7

\* Obtained by method of least squares using the function:

$$K_1 F_a + K_2 = \frac{AP}{P}$$

Fig. 4.

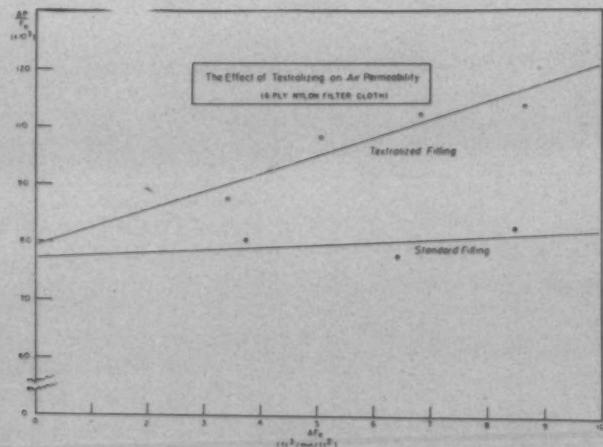


Fig. 4-A.

Fig. 4 indicates comparative performance in shrinkage and air permeability and abrasion resistance. The conclusion to be derived from these data is that since permeability and abrasion resistance were critical factors in the utilization of this fabric, going from uncrimped to Textralized filament yarns has served to maintain relative performance as well as the achievement of a definite reduction in the amount of fiber necessary to meet minimum requirements. Thus filament Textralizing can add a further plus, economically, by giving equal performance at lower weight.

Equally dramatic savings have been achieved in knit-

goods and pile fabrics. In an application on knitgoods, in which the Textralized filament weight was adjusted to match exactly the spun yarn weight it was found that Textralized filament yarns were indeed bulkier than their spun counterparts. In one such case a Textralized filament yarn weighing only five-eighths as much as the spun yarn in total weight gave equal appearance and hand. In this case a man's sock, normally made with a worsted yarn weighing 16 ounces to the dozen, with Textralized filament, at equal bulk and appearance, weighed only ten ounces per dozen.

In carpets or cut pile fabrics in general we have found the weight saving to be very significant. Crimped filament yarns gave coverage equal to uncrimped filament yarns at one-third to one-quarter of the weight of the uncrimped filament yarn in the pile fabric. See Fig. 5 (carpeting, Textralized pile vs. un-Textralized pile viz., Y-399 vs. Y-398).

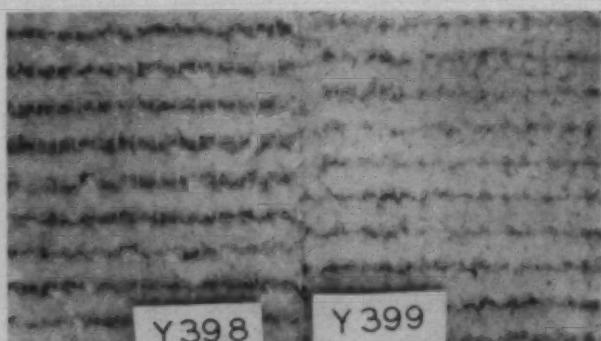


Fig. 5.

In addition to the economics, the problem on quality and uniformity is an ever-present competitive factor in the textile industry. Filament yarns of today were produced at unprecedented levels of uniformity. Spun-like effects have been realized with continuous filament yarns which have uniformity levels far beyond anything that can be obtained, particularly in large-scale operations.

It is obvious that the values obtained through increased bulk due to changes in fiber geometry must not be impaired by any critical reduction in the strength of the resulting fabric. From a consideration of the mechanical problems connected with known structures it is understood that in order to experience any bulking due to changes in geometry, such bulking must be achieved at some expense of strength. The factors governing strength losses are presented in Figs. 6 and 7 (crimp type formed by Textralizing and stress analysis of a crimped section, respectively).

It can be seen that stress concentration in a hook is a function of the applied stress and the radius of curvature of the hook itself. The smaller the radius of curvature the higher is the stress multiplying factor. The reduction in tensile strength is only "apparent," because there is no degradation of material involved in mere distortion. However, on elongation a stress is set up across the fiber resulting in tension on the inside and compression on the outside of the bend. We have successfully restricted this tensile loss to a maximum of 25 per cent for very highly crimped material and the normally expected tensile loss is in the order of magnitude of five to ten per cent. We find that this amount is tolerable in most fiber types. We have introduced other problems, however, many of which have yet to be solved. The control of denier has now become a more significant factor because the imposition of crimp produces

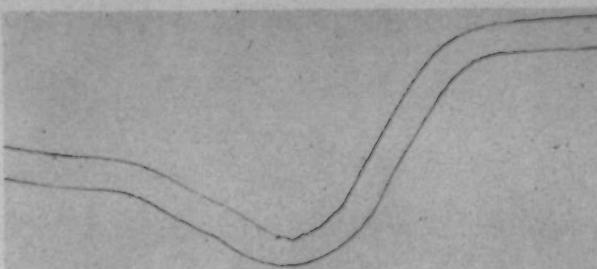


Fig. 6.

$$S_0 = \frac{F_0}{A} = \frac{F_0}{\pi r^2}$$

Where:

A - Uniform area of a crimped fiber  
r - Radius  
F<sub>0</sub> - Applied tensile force  
S<sub>0</sub> - Uniform stress on a section where line of force coincides with fiber axis

Extreme Fiber Stress at a Crimp

$$S = \frac{F_0 + M_C}{A} \pm \frac{M_C}{I}$$

Where:

+ sign is at the inside of the bend  
- sign is at the outside of the bend

Considering Maximum Stress  
Only (plus sign)

$$S = \frac{F_0}{A} + \frac{M_C}{I}; S_0 = \frac{F_0}{\pi r^2}$$

$$M_0 = F_0 X$$

$$A = \pi r^2$$

$$c = r$$

$$I = \frac{\pi r^4}{4}$$

Let  $X = nr$

$$\text{Then } S = \frac{F_0}{\pi r^2} + \frac{4F_0 nr^2}{\pi r^4}$$

$$S = S_0 (1 + 4 n)$$

$$\text{Or } S/S_0 = 1 + 4 n$$

Fig. 7.

a significant amount of low-range extensibility. Denier or yarn bulk changes as a possible result of ageing or permanent set on cones, cheeses and beams will require more precise control of winding and package tension. A careful check not only of maximum packaging dimensions but also of ageing conditions may require the control of secondary creep characteristics.

There is still a considerable amount of development work to be done in order to bring forth the maximum utilization of the crimped filament yarns. However, much has been done. The ice has been broken and a whole field of research, development, manufacturing and sales of this new type of yarn remains to be explored by those who are interested. The possibilities are legion. One can visualize such improvements as the rain resistance of filament fabrics, the improved warmth of coatings and suitings, greater bulk and abrasion resistance in shirtings and work clothes, improved pile fabrics, wider applications of synthetics resulting in cheaper fabrics to the consumer with greater values. These are but few of the possibilities inherent in the use of Textralized filament yarns.

Dr. Rainard's remarks were presented Dec. 5 at the textile engineering division session held during the annual meeting of the American Society of Mechanical Engineers in New York City.



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## *Warp Preparation & Weaving*

# Some Thoughts On Warp Sizing

By HERBERT C. OLSEN, Textile Chemist, National Starch Products, Inc., New York City

THE extensive use of starches for warp sizing is relatively modern and was brought about by the advent of higher loom speeds, the increasing use of lower grade yarns, more difficult cloth constructions, and the greater number of looms per weaver. In spite of this relatively recent beginning, some warp size preparations are rather complicated.

It is reminiscent of the days of Queen Elizabeth when the practice of starching laces and ruffs reached the status of a fine art. It was not uncommon for the nobility to import highly revered tutors from Holland and France for professional lectures and demonstrations within their great castles. It became such a fad, embracing all hues of colored starches, that finally the practice was outlawed by royal decree. A strong feeling developed that the art of making starch from edible cereals was sacrilegious and a debasement of food. Even today the nation's corn crop is principally utilized for food with only four per cent going into the production of starch. A still smaller fraction is used for textiles, amounting to but one-tenth the total corn production. In spite of its minor volume and low price, starch is generally agreed to occupy a vital position in warp sizing and finishing.

To come up to date, it is a mistake to consider complicated formulas a thing of the past. Formulas containing six or seven various ingredients are still encountered today. From current practice we have an example of one containing a starch British Gum, locust bean, ground gelatine, and three distinct lubricating compounds comprising starch-mineral oil, starch-emulsified tallow, and a mill wax.

These apothecary formulations have been likened to the fine art involved in concocting certain alcoholic preparations; such as cocktails when one adds whiskey to produce an effect and then adds water to lessen the effect, or adds lemon to make it sour and then sugar to make it sweet, and so on. The components in a size formulation are just as important as those which make up a cocktail, and the additives should work together and not against each other. The principal size ingredient is, of course, the starch which is used because of its stiffening and film-forming properties.

### Thin-cooking Starches

Complicated size formulations are not entirely whimsy, but are partly the outgrowth of various deficiencies in the basic starch itself. As the importance of volume production was increasingly realized, and insistent demand was voiced for more suitable starches, some improvement was achieved by the utilization of corn starches rather than root starches because of their better uniformity and improved resistance to thinning on continued use. It is desired to

discuss the various types of starches commercially available in order to point out their differences in preparation and application.

The first forward step was the production and utilization of thin-cooking starches. These products were commonly made from corn, which is the most abundant starch product of this country. The following remarks will refer to corn starch or its derivatives, which account for the major portion of warp sizing starches. The use of thin-cooking starches permitted more concentrated size solutions without encountering the high viscosity which made mechanical application difficult. A size which is too thick will not flow through pipes, will not penetrate yarn, forms skins in the size box, and gives low pick-up. Thin-cooking starches were produced in the textile plant by the use of enzymes or mild oxidizing agents, but it is a process that requires critical control although still used today to some extent.

The starch industry envisioned greater sales volume if improvements were to be made at the time of manufacture before shipping to the textile plant. Another step forward, therefore, was the production of carefully controlled, thin-cooking starches of various fluidities right in the starch manufacturer's plant. The most common grade is the acid hydrolyzed type widely known as "thin-boiling." These are the cheapest because their conversion may be carried out during the wet stage through which the starch necessarily passes before drying and bagging. Various starch companies apply fluidity numbers to their own thin-boiling starches as controlled by arbitrary cooking and viscosity tests. Under one such system, the most common warp sizing starches range from raw starch with zero fluidity up to 60 fluidity. The term "fluidity" is the opposite of "viscosity" so that a high fluidity means a low viscosity, and vice versa.

A textile plant sometimes desires to know how much more of a thinner fluidity to use in order to obtain the same hot viscosity as a heavier fluidity. An approximate formula is  $2\frac{1}{2}$  times the fluidity difference expressed as percentage. For example, compared to a 20 fluidity starch, a 50 fluidity would require  $2\frac{1}{2}$  (50-20) or 75 per cent more to give the equivalent hot viscosity.

Another grade of starch which also cooks thin is "British Gum," produced by roasting dry starch, and which is somewhat more expensive. The use of these two grades solved the problem of high viscosity and formerly accounted for large tonnage, and they are still far from being out-dated.

Although workability was greatly improved, the above conversions did not solve all the problems. There were still difficulties with viscosity changes due to temperature fluctuations, troubles with thickening and skinning on cooling. These problems were minimized by the introduction of

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"oxidized" or "chlorinated" starches. The term "chlorinated" is a misnomer because no chlorine is actually introduced into the starch molecule. Commercial oxidized starches are generally produced by an aqueous, alkaline hypochlorite treatment, and result not only in hydrolysis but also in the introduction of carboxyl groups. These groups may be tested for by a modification of the Turnbull's blue test as carried out for oxycellulose, and also quantitatively titrated.

Apparently these groups act as branches to minimize realignment of the starch molecules after cooking to form a hard gel. Since there is, at the most, no more than one carboxyl group for every 30 glucose units, it is reasonable to believe that physical branching alone does not entirely account for the resistance to set-back or gel displayed by oxidized starches. It is possible that the hydrophilic or water-loving nature of the carboxyl groups surrounds each starch molecule with a cushioning layer of water acting as an internal lubricant. A sufficient distance between the starch molecules is thereby maintained and would tend to prevent their association and realignment in forming a gel. Mildly retrograded or gelled starch solutions can be returned to their fluid condition simply by re-heating with a re-absorption of water. A further support of this theory is that small amounts of sulfonated oils increase the gelling tendency, not by lessening branching, but probably by blocking the hydrophilic capacity of the carboxyl group. On the other hand, thin-boiling corn starches which contain no carboxyls are made more stable by the addition of sulfonated oils. As would be expected, the carboxyl groups also appear to possess a plasticizing action on the film itself, leading to greater flexibility than exhibited by thin-boiling, acid hydrolyzed starches.

### **Treatment with Organic Chemicals**

For many years the common treatment of starches involved the use of inorganic chemicals. More recently increasing emphasis has been placed on treatments with organic chemicals, and some of these starch derivatives are presently being used by the textile industry. It goes without saying that the advance of cellulose chemistry has been of great importance in the development of such starch products.

Perhaps the oldest, most common organic treatment of starch is represented by acetylated potato starch, called "feculose." This treatment for corn starch is fairly expensive and therefore not commercially important.

One of the newer types is the "starch ester" product containing carboxyl and sulfonic groups which also exhibit gelling with sulfonated lubricants. Its configuration shows an even higher degree of branching or spatial interference than with the oxidized types; and, as expected, it possesses better resistance to gelling or pasting-up on cooling. Another effect not at first considered in the development of the starch ester was the solubilizing and hydrophilic nature of the sulfonic and carboxyl groups. During plant trials it was soon observed that these groups were remarkably effective in accomplishing removal of the size from spun rayon wraps without the necessity of enzyme treatment. Some of these spun rayon fabrics have gone directly from the loom to the dyebath, bypassing the usual de-sizing operation and saving as much as one cent per yard on de-sizing costs.

Although the higher cost of the starch ester may boost the sizing costs one-tenth cent per yard over conventional spun rayon warp sizes, the manufacturing saving is obvious. This difference has been particularly important in the case of vertically integrated mills which must pay de-sizing costs themselves and which realize that the very starch they buy for a dollar may cost them three to four dollars to be rid of.

The hydrophilic nature of the starch ester also makes possible weaving at lower and more comfortable humidities, due to the fact that the size film is more pliable and less brittle and does not require high humidity for plasticization. However, the lowering of humidity is only a matter of degree, since the natural pliability of the fiber is also involved. Before comfortable lower humidities can be attained in the weave shop, it will be necessary to increase the fiber plasticity to the same extent as that now obtainable with the starch esters. Preliminary laboratory work sponsored by the National Cotton Council indicates that it may be possible to double the regain of cotton as well as its elongation at break. If such results prove commercial, there may be greater utilization of the unique properties of newer starches. It is also felt that the initial success and active promotion of starch esters has ushered in a new era of chemically modified starches.

Another commercial product which has been described as a hydroxy alkyl "starch ether" possesses good resistance to gelling but is not as easily removed as the starch ester type.

### **Agricultural Modification**

We have discussed what man and chemistry have done to improve nature's product for a specific use, but what has nature done itself? Under the guidance of scientists, nature has produced a waxy, hybrid corn starch called "Amioca." This in the pure state is 100 per cent amylopectin, the branched component of starch. But to a large extent it is the amylose fraction which is responsible for congealing. Starch amylose, however, is an excellent film-former, and experimental fibers have been made from it. This fiber should not be confused with Vicara, which is the non-starch by-product from the corn kernel. If imagination is allowed to roam, we can envision army clothing made of amylose fiber and the hungry soldier on an isolated Korean hill eating the shirt off his back. Or the wager to eat one's hat may not be such a feat if made of amylose. The natural corollary to this is, since cotton has already been made resistant to bacterial consumption, whether it is possible to render it human fodder without detracting from its qualities for clothing.

Amioca, or thin-cooking products made from it, has been successfully used for warp sizing and is so stable to gelling that it has even been applied cold, thus avoiding skinning, size marks, fluctuations in viscosity; dilution by steam condensation, and so forth. Its hydrophilic nature produces a more pliable film than ordinary corn starch. The adoption of amioca products by textile plants is a matter of balancing its advantages against the higher costs.

Limited plant experiments have been conducted using a thin-boiling amioca starch and sizing warp yarns on the loom. The to-and-fro motion of the yarns and their slow movement toward the harnesses were sufficient to dry the yarns. The efficiency of the starch so applied appeared to be greatly increased over the conventional method because of the elimination of overdrying, lubricants, and the tearing

action from dry split rods. It remains to be seen whether this method would prove itself on a large plant scale, but if successful it would eliminate the slashing operation as now practiced as well as the need for humidifying weave rooms, since natural air drying would leave the optimum moisture in both starch and fiber.

#### Size Formulations and Per Cent Pick-up

A very approximate formula for the sizing of singles spun yarns, is one pound of starch and one ounce of lubricant per gallon of size solution. The formula is generally cut in half with plied yarns, or sizing omitted altogether. No exact formulation can be given prior to running a plant trial, due to variations in fiber content, counts, twists, cloth construction, size viscosity, squeeze rolls, slasher speed and many other factors. Although there are numerous exceptions, carded cotton employs mostly thin-boiling starches; combed cotton and worsted yarns mostly thin-boiling and oxidized corn starches and potato; spun rayons mostly British Gum from corn and tapioca with increasing use of the newer starch derivatives; and filament viscose mostly gelatine, corn dextrine and starch esters. The described uses represent general practice, but changes are inevitable with new starches and fibers.

It is difficult to predict what the pick-up should be with a given formula since it depends partly upon the size viscosity, its rheological properties, nature of the fiber, nip pressure, and a number of others. Up to a point, higher viscosities may produce two or three per cent greater pick-up, but a further thickening serves to decrease pick-up by lessening size penetration. The speed of the yarn through the size solution raises the pick-up by increasing the "impact" viscosity and shortening the time under the squeeze roll for maximum size removal. Under average conditions cotton and spun viscose give approximately 100 per cent wet size pick-up; worsted and spun acetate only 70 per cent, with spun nylon and other hydrophobic fibers a mere 35 per cent. These figures may be used to predict very approximate pick-ups.

#### Size Preparation

Although the starches previously described were developed to improve size preparation and application, certain precautions are nevertheless required to obtain optimum results. The following comments are not intended as a complete outline for proper size preparation but represent high spots which are of continued concern to mill personnel.

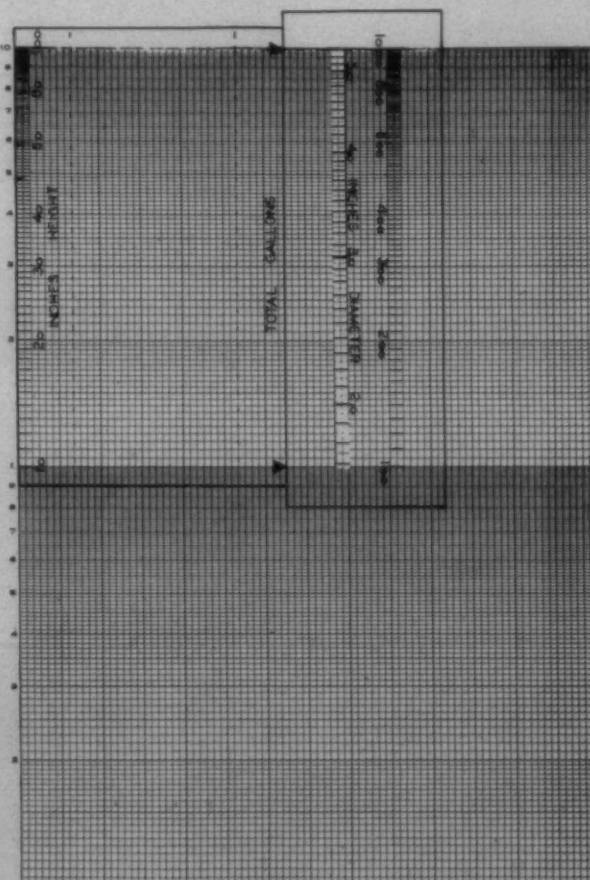
The usual procedure is to fill the cooking kettle with the required amount of cold water, add starch with agitation and raise to the boil, thereafter adding lubricants and other ingredients. The widespread use of control instruments has been outstandingly helpful in achieving uniformity of sized warps. Metered water, automatic starch weighings replacing old-fashioned volume measurements, hand scoops with built-in scales, constant temperature rise and time controls, are not considered necessary equipment. However, control equipment is occasionally misused, as in the case of metering initial cooking water and not checking the finished volume to insure uniform concentration. The use of slow-congealing starch makes possible the gradual addition of cold water to the freshly prepared size without causing the congealing and lumping characteristic of the old-fashioned thin-boiling types. Of course, it still remains better practice to add hot

water, which may be accomplished by a steam feed into the cold water line.

Size preparations always involve concentration, which is ultimately measured by the final volume. A quick volume approximation is the rule of thumb that the number of gallons per inch of height is equal to one-half the square of the kettle diameter in fact. For example, a 36-inch diameter kettle equals the square of 3 divided by 2, or 4½ gallons for every inch of size. Or a more accurate size calculator may be made easily from one and two cycle logarithm paper by setting 53.2 on the two-cycle scale opposite the index point on the one-cycle scales.

Temperature controls insure that the last starch granule is swollen, because the size may be kept at just below the boiling-over point. This ever-present danger of manual control generally resulted in undercooking. Gelatinization of the granule begins to take place at about 160° F., but small amounts remain at 200°. Although all the cells may have released their substance to the solution, the cooking cycle is not yet complete until the bag-like sacs have been further ruptured by mechanical agitation to produce a solution with reduced and nearly uniform viscosity.

Live steam is now almost universally used for preparing warp sizes rather than jacketed kettles or closed steam coils. Direct steam is cheaper, faster, and provides agitation to the slurry. Complete mixing is insured by high-speed mixers or more commonly by blade agitation operating at 50-100



To make size calculator, cut along heavy lines, fold on dotted lines, and place smaller scale so that it slides between the folds of the larger scale. To read volume, place the figure corresponding to the kettle diameter opposite that for the height or depth of the size, and read volume opposite the arrows. Correct, if necessary, for the decimal point.

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r.p.m. and sometimes is further aided by compressed air injection.

Although there is little excuse for jacketed cooking kettles, they are highly desirable for storage kettles because of lack of direct steam dilution caused by keeping the size hot. A less expensive means is the use of closed steam coils within the mix and through kettle insulation. The covers to storage kettles are kept closed and agitators run at low speed, such as ten r.p.m., in order to avoid viscosity decreases.

There are certain materials which lessen the ability of starch to swell on cooking. Large quantities of soluble British Gum, dextrines, and sugars decrease the rate of swelling because their prior solution at lower temperatures robs the starch of the necessary water in which to swell. It has also been claimed that the change in specific gravity and the effect of osmosis is responsible for retarding swelling. Similar effects may be achieved by cooking starch with insufficient water. Fortunately, these conditions of size preparation are not approached in plant practice. However, they point out an analogous example when cooking starch with oils and fats, which inhibit swelling probably by coating each granule so that water is not permitted free entry. The remedy, of course, is to add such lubricants only after the starch has completely swollen. Actually, minor percentages of many lubricants can be tolerated without appreciably altering the gelatinization rate.

Other additives called "binders," such as gelatine, locust bean, carboxyl methyl cellulose, and water-soluble acrylic resins have been used with starch to improve weaving. Sometimes as little as two per cent on the starch weight has been effective. Frequently overlooked is the fact that the size viscosity is increased and a greater total pick-up takes place. The added starch, however, is improving the weaving and not the binder. Sometimes no improvement takes place because higher pick-up was not the element required for better weaving. It is true that the binder may increase the viscosity without detracting from the working properties of the size, as might be the case with higher starch concentrations.

A binder such as gelatine or animal glue is extremely subject to breakdown and loss of film strength at temperatures exceeding 160° F. Whenever finely powdered gelatine is added with starch and given the full cooking procedure, much of its value will be lost. Somewhat better results are obtained by allowing the gelatine to swell in cold or warm water and then adding to the cooked starch. But most starch application temperatures are sufficiently high to continue the gelatine breakdown, with consequent variation from warp to warp.

It is interesting to make preparations of gelatines with various types of starches and observe their compatibility. When the hot solutions are allowed to cool undisturbed, a separation takes place with the starch falling to the bottom. This is true with acid hydrolyzed and oxidized starches, British Gums, dextrines, starch ethers, and esters of the acetylated type. The outstanding exception is sulfonic carboxyl starch ester, which is especially smooth and homogenous. Its use is further suggested when it is recalled that it may be applied at lower temperatures because of its slow-congealing nature, thereby maintaining the film strength of the gelatine used as a binder.

The theory of using polyvinyl alcohol with starch for warp sizing is old, but renewed interest has recently developed particularly for the sizing of hydroscopic spun yarns. Here again we find the same incompatibility of polyvinyl alcohol with ordinary starch as shown by gelatine. In plant use the viscosity may be increased and agitation maintained to prevent separation, but the fact remains that the resulting films may not produce maximum weaving efficiency. The use of polyvinyl alcohol in place of gelatine would have the advantage of being cooked along with the starch without temperature breakdown. In some cases it has replaced gelatine for acetate-filament warp sizing in spite of its higher cost, probably because of its better uniformity, resistance to breakdown, and ability to be applied at higher temperatures. On the other hand, polyacrylic acid, which is successfully used for sizing filament nylon, cannot be used with starch because its high acidity would reduce the viscosity and film strength of the starch.

### Size Application

The application of a properly prepared size is simple in theory but has fostered considerable discussion on how it should be carried out in practice. Many points seem to have two schools of thought such as: size penetration versus coating; can versus hot air drying; homogenization versus traditional cooking; lapped rolls versus rubber types; wet splitting or not; "skying" or not; two size boxes or not; and so forth. In the case of penetration there appears to be a middle ground, namely that penetration is required only to the point of securing good anchorage for the surface film. It is certain that we cannot avoid a measure of penetration nor can we obtain a sausage-like casing without penetration. When correctly carried out, can drying appears to give a sufficiently rounded yarn with claims of less steam consumption than with hot-air drying. Homogenization mechanically achieves the starch breakdown previously obtained with longer cooking, and is a process which undoubtedly will merit lively discussion for several years to come. Inexpensive, rubber-type materials have certainly found their place for the initial nip roll but are not yet equal to the dressing obtainable from a properly lapped finished squeeze roll.

A new and practical development which strikes at the heart of a basic defect in the practice of warp sizing involves the use of wet split rods and the maintenance of a split warp for at least a portion of the drying period. Formerly all warps left the squeeze rolls with the adjacent yarns adhered to each other in a solid sheet. Single-end yarns were obtained at the drying end by splitting them into different planes with the split rods followed by the comb. The size between adjacent yarns served no useful purpose and actually hindered by causing the surface fibers to be torn away from the core of the yarn. Consequently, the weakening and fraying gave high breakage and entanglement in the loom.

The old remedy was to depend on well-lapped squeeze rolls brushing out the surplus size between the yarns, as well as using higher roll pressures and thinner sizes to avoid excessive surface coating. These and other practices only minimized but did not eliminate ripping and tearing sized yarn at the split rods.

Considerable improvement has now been obtained by splitting the warps into two sections following the squeeze

and partially drying before combining into a solid sheet. By design hot air drying is quite suitable for wet splitting although dry cans may be used but require a separate can for each section. This method gives more space between the yarns while they are still in a very wet and tacky condition and causes less tearing of the sized yarns. The mechanical difficulty of occasional laps does not invalidate the sound principle of wet splitting. The ultimate would be to completely dry the yarn in a sufficient number of splits so that there would be no adjacent adhesion before re-combining the warp yarn into a single warp beam.

A number of mechanical designs seem to have been promoted as engineering achievements with too little attention given to the practical aspects. A large box means more size waste, gelling and lumping, size marks, excessive yarn stretch, viscosity changes, and variations in concentration from greater steam dilution. Since the rate of size consumption is the same for a large as for a small box, the same quantity of size may be given as much as three times more mechanical breakdown before being consumed. Longer time in the size box gives that much more opportunity for all the above-mentioned ills to occur. We feel that the size box is the heart of a delicate and critical sizing operation, and that the size should be gotten in and out as quickly as possible.

I have been told our European friends have partly solved this problem by attaching wooden blocks to the size-box front in order to protect the size surface and occupy unneeded volume. The American system consists of a metal or wooden cover on the front edge of the box reaching back to the nearest squeeze roll. Ever-active American ingenuity has even devised a transparent cover for the entire box, including windshield wipers with squirt attachment. Obviously size boxes cannot be made so small that normal maintenance of warps such as laps, broken ends, and threading is rendered difficult.

As a rule there is little difficulty with sticking to dry cans in the customary cotton slasher. The smaller dry cans of rayon slashers, however, frequently show sticking with filament warps and cause "sanding." Lapping the first few cans, lowering temperatures, and sand-blasting have all been used to minimize sticking. A newer development utilizes Teflon (poly tetra fluoroethylene) coating, which produces surfaces remarkably free of sticking tendencies. It has been claimed to give highly satisfactory results wherever it has been used. It may even help with laps on wet split rods.

The established use of viscosity recorders has now made possible viscosity control. This system is in use in the North and South and is said to give good control. Under

normal conditions viscosity control of the size in the box is unnecessary with most corn starch types but has been found valuable for potato starch, which exhibits high breakdown. The principle is to prepare the size at a higher viscosity than would actually be required and feed from the storage kettle directly to the size box. When the recorder indicates excessive viscosity, a sufficiently large centrifugal pump automatically begins to circulate the size from the bottom of the box, returning it to the surface. The operation continues until the viscosity drops to the proper level. The cycle is automatically repeated as required, the pump effecting viscosity breakdown as with a homogenizer.

The usual way of getting a properly prepared size is to cook it to the point where the starch substance is all dissolved and continue to cook it with agitation and break it down to the point where the changes thereafter are relatively unimportant. We know the starch will continue to break down, but at a much lower rate, so generally the starch maintains a fairly stable viscosity. The homogenizer brings about the same result, but lengthy cooking is eliminated by an exclusively mechanical attack on the starch to bring it down to proper viscosity. Apparently the question is answered in the case of each mill itself. The mills are able to figure their steam cost and are able to estimate any size savings and so forth and to judge for themselves as to whether there is any saving. It depends upon the facts in each mill itself, and each mill has to get the answer.

In other words, as the temperature rises, or if it drops, as it does in every operation, the viscosity remains more stable and less subject to temperature variations. That is a point in favor of the homogenizer. A factor is, however, that most mills have been able to use untreated corn starch and break it down to a workable solution rather than use thin-boiling starch to attain proper viscosity immediately.

Formerly the seriousness of overdrying sized warps was frequently overlooked. Even the housewife knows what happens to the pie when the gas is turned too high. In spite of the best ingredients and care in cooking, starch can be "burned" by over-drying. The use of automatic regain controls has now given little excuse for producing parched and brittle warps.

In conclusion, the rapid advance of instrumentation, the latest equipment, and the use of newer starches have all tended toward greater uniformity, higher production and fewer "seconds." There is little doubt that these improvements must continue in order to solve the problems encountered with newer fibers.

Mr. Olsen's paper was a feature of the Fall meeting of the Piedmont Division, Southern Textile Association, at Belmont, N. C., Nov. 8.

# SO YOU WANT GOOD CLOTH!

By FRANK D. HERRING

## Part 41 — Starting A Loom Fixers School

THIS article deals solely with the things I would recommend if asked to start a training program for loom fixers. I have had quite a lot to say on this subject in previous articles in this series, but I feel like the reader will

grasp it better, and get more out of it, if put in condensed form in one article.

This is a subject in which top management must be involved, because certain items of expense are involved in

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setting up the arrangement. (When I speak of top management, I refer to the superintendent up). They must be the men to decide whether the program is worthwhile or not, and if they decide the program is worthwhile they must be sure that the inside supervisors—overseers and second hands—are completely sold on the program, and they should also take part, with the inside overseer, in the selection of the instructor and the trainees. (The superintendent and the overseer can usually select more wisely the trainees, because they are in closer contact with the personnel who would be the most promising prospects for the work).

If the overseer and his assistants are not working in complete harmony and co-operation with the program, very little good will be derived from it, because they will not take the necessary time and interest in the trainee, and in this event the trainee will not maintain the necessary interest in his efforts.

Selecting the instructor is the next consideration in line, and sometimes turns out to be a very difficult problem to solve, because he must possess several qualifications not ordinarily found in the average or above-average loom fixer. First, he should be a good loom man, and also should know something about cloth construction; I mean by that he should know how to set up a loom for best all-round results. He should also be a man who has had supervisory experience and knows how to handle men and get along agreeably with people, and above all he must have patience, and plenty of it. For best results, he should be a man who has had practical experience as a loom fixer, and also considerable technical training; both are necessary.

It is sometimes difficult to secure the services of a man who meets these qualifications. Most overseers and some second hands are capable of doing the job, but I don't think they should be called upon to do it, because they have full-time jobs and would not have the time necessary to prepare the material for study and coverage of the loom from week to week, because, for best results the study of the loom should be carried on in an orderly manner, first things first. However, I think the overseer or some of the second hands should attend the class meetings, because they will question the instructor on some points and this will encourage a more open and free discussion of the things involved, and all will get a better understanding of the things being taught. One thing for sure—until a suitable, capable instructor can be secured it is a waste of time to inaugurate a loom fixers', or training program, because the instructor must be a man who knows his business, and must be able to sell himself to the fixers and trainees by showing them that he does know his job.

As a rule the most efficient instructors are men who have had experience as overseers but have reached an age when they no longer care to take on the responsibilities which goes with an overseer's work. The instructor must be a man whom we usually refer to as having common horse sense, or a man who has a charitable mind towards his co-workers and is capable of promoting harmony and good will between all his co-workers. Very often, when teaching a class of loom fixers, differences of opinion will arise as to how certain adjustments on the loom should be made. The instructor can eliminate these differences before they reach the stage of heated arguments by allowing the parties involved an opportunity to explain in detail their ideas;

then he should ask the one whom he considers the widest of the mark to go to the loom and set the parts, or motions in question; then the instructor should set up the parts himself and explain in detail the "hows," and then move over to the loom with warp on it and start it up and show the "whys."

This will encourage all the fixers to do more listening than talking, and will have a tendency to keep down arguments during class meetings. However, the fixers all should be encouraged to ask questions when they do not fully understand the instructions. The instructor should insist on the fixers using gauges to set up certain parts on the looms in cases where the loom builders recommend it. And these gauges should be provided for each fixer, with the exception of the battery and lay gauges, as one or two sets of these gauges are sufficient, because they are not used very often, and these gauges should be kept in the supply room and the fixers required to get an order to obtain them, and the supply man should note on the order the name of the fixer who has them and not file this order until the gauges are returned.

Before starting a loom fixers class the mill should write the loom builders and get all the data concerning the settings of the various parts of their looms, as these settings will vary on different model looms, and also on the same model looms at different mills due to the different attachments. The fact must be kept in mind that these instructions for setting the various parts can only be furnished for average conditions by the loom builders and some slight variations will have to be made when weaving some unusual, or difficult fabrics, but in such cases it is wise to call in a service man of the loom builders and get their opinions and advice.

The instructor should always work in close co-operation with the overseer of weaving and discuss with him the things scheduled to be taught, because the overseer must accept the responsibility for the work in his department, and as no one man knows everything about a loom they will both benefit by these discussions. I fear that some readers will get the idea that it is impossible to obtain the services of a man who can meet all the requirements stated herein, but it should not be so difficult. As stated, he must be an agreeable person who can get along with people, and he must be a good loom man, and have a good knowledge of cloth construction.

There is a wide difference of opinions as to how long the teaching periods or classes should last. My experience has been that best results will be obtained by having the teaching periods last  $1\frac{1}{2}$  hours. On three-shift operation the second shift fixers should meet before the first shift goes off duty, and the first and third shifts meet 30 minutes or one hour after the first shift goes off. I think the fixers and trainees should be paid for the time they attend class, because if they are not paid some of the older fixers will not attend and by failing to do so some of the best potential material might become disgruntled and lost by the company. It is not easy for most people to fool themselves and think they are plenty good, when, in reality they are not, and by getting this type of fellow to attend the classes he can be made to realize that there is still much he can learn to do much better, and I think this one thing alone makes it very profitable for the company to pay them for attending classes.

I think separate classes should be held for the trained

loom fixers and the beginners or trainees. However, I think the trainees should be encouraged to attend the fixers' classes but take no part other than watch and listen, and I don't think the trainee should be paid for this time, because if he is not interested to this extent he is not too good a prospect for a learner.

Much care should be used in selecting the trainee or beginner. I think top management and all the inside supervisory personnel should participate in these selections, because a lot of time and money can be wasted if the wrong men are chosen. The trainee must *want* to learn to fix looms, and he must be physically and mentally fit, and must have the right personality, etc. A lot of young men want to learn to fix looms who do not have the mechanical minds to ever make good loom fixers. I do not mean that they are not qualified to become very efficient and capable men in other lines of endeavor, but the fact is that every man is not mechanically inclined. I think the overseer of weaving and the instructor should have the final say as to the trainees' ability to learn to fix by setting up a few aptitude tests for them to pass. These tests can be given to the trainee without his knowledge. This is best because he will be in a more relaxed attitude and state of mind.

#### Setting Up the School Room

To conduct a loom fixers' training program several things should be provided, the first being a well-lighted room with solid floor foundation so that the looms can be secured to

the floor. One of the looms should be empty, without warp on it, the other one should be fully equipped with warp on it and ready to run and make cloth. The empty loom should be torn down, or dismantled and rebuilt in order to teach the fixers and trainees how the various parts and motions should be applied and adjusted, and the loom with the warp on it should be used to teach them why the parts should be adjusted thus and so. This will eliminate guess-work and doubt in the fixers' and trainees' minds.

The instructor should allow the fixers and the trainees to do most of the dismantling and rebuilding, because a man will learn a thing quicker, and understand it better, by doing it with his own hands. The instructor should not only instruct the fixers and trainees in ways and means to do the job, but he should from time to time ask some member of the class to explain the hows and whys of things, but he should always be pretty certain to call on a member whom he is sure of being able to do the job. This will avoid embarrassment and encourage other members to strive harder to reach this proficiency.

The school room should be equipped with a work bench and a vise, and should also have some storage space for certain parts to be used in the dismantling and rebuilding of the loom, as some parts will become broken or filed too much. A blackboard should also be made available in the room, because certain settings and timings of parts can be better understood when illustrated. Of course, a complete set of loom fixer's tools should be made available in the room.

## Bleaching, Dyeing & Finishing

### Rhode Island Section Wins A.A.T.C.C. Prize

TO paraphrase the theme of this year's national convention of the American Association of Textile Chemists and Colorists, nearly 1,500 technicians were brought up to date on what *American Advances* had been made Through Creative Chemistry during the three-day meeting held last month at Boston, Mass.

Convention highlights included a forum on "The Human Side of Textiles" . . . award of the Olney Medal to Werner von Bergen of Forstmann Woolen Co. . . . a panel discussion of continuous dyeing methods, with special reference to synthetics . . . winning of the intersectional contest by the Rhode Island Section with its paper on "Printing of Acrylic and Polyester Fibers" . . . a special luncheon for textile school alumni groups . . . and the extensive and well-arranged textile dyeing and finishing exhibition, participated in by more than 50 firms which supply services and chemicals to the wet finishing industry.

The National Council, controlling body of the American Association of Textile Chemists and Colorists, met during the convention, and through its publications committee (Prof. P. Theel of the Philadelphia Textile Institute, chairman), announced the completion of the work on the *Vat Monograph*, a 384-page study of vat dyeing, and advised

that same would go on sale after the first of the year. This book is one of the most comprehensive and complete studies of vat color application ever compiled and will be priced at \$7.50.

The corporate membership committee chairman, George L. Baxter of the Bradford Dyeing Association, announced that 12 new corporate members had joined A.A.T.C.C. and told of the committee's plans to increase this type of membership to yield a total of \$60,000 annually, all of which income will be devoted to research to help the industry. The membership committee (Raymond Jacoby of Ciba Co., chairman), reported the following new members: 71 senior, 20 associate, three junior, 45 student and 33 transfers to senior.

Evidence of the growth of A.A.T.C.C. was noted when the council approved the establishment of a Washington (D. C.) Section which will begin functioning immediately under the temporary chairmanship of Dr. Walter M. Scott of the Bureau of Agricultural and Industrial Chemistry, U.S.D.A. This will be the 12th local section of the association.

Retiring President C. Norris Rabold of Erwin Mills, Inc., announced a new committee to study the internal organiza-

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tion of the association and to advise changes in its structure. The members appointed were P. J. Wood of Royce Chemical Co., William D. Appel of the National Bureau of Standards, Henry L. Young of Interchemical Corp., Albert E. Sampson of National Aniline Division of Allied Chemical and Dye Corp. and Jackson A. Woodruff of American Viscose Corp.

During the convention it was reported that, in an effort to help the textile industry in the problems of stream pollution, A.A.T.C.C. committees, both national and section, are being organized. The national committee is composed of one representative from each section of the A.A.T.C.C. The sectional representatives are appointed by their sectional chairmen. The formation of sectional stream pollution committees has been requested, and Piedmont, Philadelphia, Rhode Island and New York sections have so far established such committees.

The National Committee was organized in June, 1952. A second meeting was held in September, 1952, and officers were elected for one year. The aims and objectives so far decided upon are as follows: (1) That the A.A.T.C.C. Stream Pollution Committee shall concern itself with industrial wastes only and shall not concern itself with disposition of sewage from textile mills. The extent to which sewage disposal shall be considered will be limited to the application of sewage disposal equipment for handling textile industrial wastes and the effect of such wastes upon sewage disposal system. (2) To encourage, inspire and promote technical investigations on specific problems. (3) To co-operate with the national technical task committee on industrial wastes and to further the aims and objectives of that body within the textile wet processing industry. (4) To study new methods for examination of textile wastes. (5) To publish case histories. (6) To study B.O.D. determination as a measure of pollution by textile wastes in comparison with A.P.H.A. methods. (7) To study specific chemicals used in textile manufacturing as related to pollution.

### A.A.T.C.C. Election Of Officers

This year there was the largest response ever in voting for officers of A.A.T.C.C. The mail ballot was returned by well over 50 per cent of the voting members. The popularity of the candidates was undoubtedly responsible for the larger return, since total ballots returned in previous elections usually averaged only about one-third of the active members. Results were relatively close. The new officers are: President—J. Robert Bonnar (*left*) of General Dyestuff Corp., New York City; vice-presidents—Arthur T. Brainerd of Ciba Co., Chicago, Arthur W. Etchells of Hellwig Dyeing Corp., Philadelphia, Samuel L. Hayes of Ciba Co., Charlotte, N. C., and Geo. O. Linberg of Synthron, Inc., Ashton, R. I.

Raymond W. Jacoby of Ciba Co., New York City, was a candidate for president. George L. Baxter of Bradford Dyeing Associates, New York City, opposed Mr. Etchells for vice-president representing the Middle Atlantic Section. The other candidates were not opposed.



Activities which were considered to be of greatest immediate value are preparation of a bibliography on past and current research, methods of textile waste treatment, preparation of a glossary of terms related to industrial waste disposal, study of test methods for examination of industrial wastes for determining their applicability to textile wastes, preparation of a chart or abstract of existing laws and regulations on industrial waste disposal, compilation of information on means of financing waste disposal plants, and exchange of information with federal, state and municipal authorities.

The following assignments have been made to reach some of the above objectives: (1) Each sectional representative is to organize a sectional committee on stream pollution at his discretion and in accordance with sectional policies. (2) The Philadelphia Section is to circulate for review and correction a charted abstract of existing laws and regulations of pollution abatement. This chart is to be published when corrected. (3) The Piedmont Section is to start preparation of a reference bibliography on stream pollution literature in the textile field. Other sections are to forward all available references to the Piedmont Section for screening and compilation. (4) The Rhode Island Section is to prepare a glossary of terms related to waste identification, disposal and treatment, specifically related to the textile industry, and to undertake a study of B.O.D. measurement on textile wastes. (5) The Western New England Section is to prepare for publication a case history on waste evaluation or treatment.

In accepting the Olney Medal, Mr. von Bergen addressed some particular remarks to young chemists and students, saying "It is not enough, if you want future success, to devote the specified number of hours at your place of work. You must be willing to devote much additional time to further study. In addition to the study of the current and past literature, you should associate yourself with professional groups. This very organization was established not only as a social one, but to help especially the younger elements to promote increase of knowledge, to encourage in any practical way research work and to establish for the members channels by which the interchange of professional knowledge among them may be increased.

"In my own case, my connection with the American Association of Textile Chemists and Colorists helped me tremendously to increase my knowledge and encouraged me in the practical approach to further research. This brought about numerous contacts. Many have developed into life-long friendships.

"You must be sincerely enthusiastic about your work. Your job must fascinate you and I know that the deeper you delve into the knowledge of textile fibers the more fascinated you will be. One of the elements which is very important in selling yourself to a new employer is to show enthusiasm. However, enthusiasm is not enough. There is an old established law that you have to put energy into your work, because only then can you show by actual deeds that your devotion and your enthusiasm is real.

"We veterans of the textile industry must recognize the responsibility we have by exemplifying these three attributes. Only then will we create in the minds of the young students the desire to choose our profession. We must be willing to stoop down and help, give advice and show interest in the oncoming generation."

## Intersectional Contest

The three papers which won prizes in the intersectional contest, as well as three other entries, are abstracted here-with:

**PRINTING OF ACRYLIC AND POLYESTER FIBERS—Rhode Island Section (First Prize)**—The objects of this investigation were to determine if any of the conventional methods of printing would be applicable to acrylic fiber (Orlon) and polyester fiber (Dacron) and to develop new printing methods. Several approaches were considered: preparation of fabrics; conventional printing procedures; pre-treatment of fabrics; use of printing assistants; heat treatment for development and/or fixation of dye; steaming for prolonged periods at normal and/or elevated temperatures; effect of various binders; aftertreatments to improve dye fastness.

Preliminary experiments showed promising results with vat dyes, leuco esters of vat dyes, and resin-bonded pigments. Therefore, most of the subsequent work was devoted to these classes of dyes. As this study progressed, the following aspects were investigated: (1) The formation of a solid solution of the dye in the fiber at a temperature below its softening point. (2) The oxidation of leuco esters of vat dyes at elevated temperatures without chemical assistants. (3) Effect of thickeners. (4) The optimum time and temperature of heat treatment. (5) The effect of various treatments on the resistance to crocking.

Plant trials were made by the following methods: (1) Four vat dyes were printed as pigments in an ethyl cellulose emulsion. (2) The same vat dyes were printed as vat acids in an ethyl cellulose emulsion. (3) The leuco esters derived from these vat dyes were printed in an ethyl cellulose emulsion. (4) Four resin-bonded pigments were printed in a special emulsion.

It was found that resin-bonded pigments and selected vat dyes as pigments, as vat acids, and as leuco esters could be utilized for the practical printing of fabrics composed of Orlon or Dacron.

Laboratory trials showed that Orlon fabric must be given a thorough preparation to remove all sizing materials and waxes prior to printing. Laboratory trials further showed that Orlon can be printed with: (1) Selected acid dyes followed by pressure steaming (this was not considered a new approach). (2) Acetate dyes followed by pressure steaming (this was not considered a new approach). (3) Aridye pigment colors of extra low crock series. (4) Vat pigments in ethylcellulose emulsion. (5) Vat acids in ethylcellulose emulsion.

Practical plant trials of roller and screen prints confirmed that Orlon acrylic fibers can be printed with Aridye pigments, vat dyes as pigments and vat dyes as vat acids, producing prints with excellent fastness to light and washing and fair to very good fastness to dry and wet crocking.

Laboratory trials showed that Dacron fabric was easily prepared for printing by scouring in synthetic detergent and ammonia but fabric had to be pre-heat set at 450° F. on frame at controlled width to prevent shrinkage during subsequent heat treatments. Laboratory trials further showed that Dacron can be printed with:

(1) Acetate dyes followed by pressure steaming (this was not considered a new approach). (2) Aridye pigment colors of extra low crock series. (3) Vat dyes as pigments in ethyl cellulose emulsion. (4) Vat dyes as vat acids in ethyl cellulose emulsion. (5) Leuco esters of vat dyes in ethyl cellulose emulsion.

Practical plant trials of roller and screen prints confirmed that Dacron polyester fibers can be printed with Aridye pigments, vat pigments, vat acids and leuco esters of vat dyes with subsequent heat treatment of three minutes at 425° F. and such prints showed excellent yield, excellent fastness to light and washing and good to very good fastness to dry and wet crocking.

With leuco esters of vat dyes, the fixation was obtained by a simple heat treatment without chemical assistants. The degree of fixation was such that a stripping treatment with caustic and hydro in a pad-steam unit followed by washing removed only loose surface color without material loss of color yield and produced prints of excellent fastness to light and washing. The fastness to crocking was definitely improved.

This investigation has produced the following original developments in the printing of acrylic and polyester fibers: (1) A low-solids emulsion carrier can be used for printing vat pigments, vat acids and leuco esters of vat dyes on Orlon and Dacron. (2) High temperature alone can be used as a developing medium for fixation of vat pigments, vat acids and particularly leuco esters on Orlon and Dacron without chemical assistants. (3) Comparable yields of vat pigments, vat acids and leuco esters of vat dyes on Orlon and Dacron are presented. (4) Plant trials indicated the practicability of printing Aridye pigments in the same pattern with vat pigments, vat acids or leuco esters of vat dyes since the print paste emulsions are all of similar nature. (5) Commercially satisfactory prints have been produced as follows: on Orlon acrylic fiber with special formulations of Aridye pigments; with vat pigments in ethyl cellulose emulsion, and with vat acids in ethyl cellulose emulsion; on Dacron polyester fiber with special formulation of Aridye pigments; with vat dyes as pigments in ethyl cellulose emulsion; with vat dyes as vat acids in ethyl cellulose emulsion, and with leuco esters of vat dyes in ethyl cellulose emulsion.

**THE STRIPPING OF COLOR FROM DYED HYDROPHOBIC FIBERS—Philadelphia Section (Second Prize)**—The increasing production and use of the so-called hydrophobic fibers makes desirable a greater knowledge of many of the phases of their textile applications. The removal of color from these fibers is one of the unfortunate necessities with which the dyer is faced, and is a process about which very little information has been published.

Stripping of color from textile materials is resorted to for several reasons. First, to correct the color of uneven and poorly dyed fibers, yarns and fabrics; second, to change the color of dyed textiles to a shade that is more desirable and hence more saleable; and finally, recovery and utilization of waste.

With the hydrophylic fibers, that is, those fibers that are capable of being wetted, swollen, penetrated or generally being able to enjoy intimate molecular association with water, the stripping of color is relatively easy, and is largely a function of the chemistry of the dyestuffs involved. The materials producing these color stripping actions are generally water-soluble substances that react in the aqueous phase, and as such they present no great difficulty to the average dyer when he uses them to strip color from the hydrophylic fibers.

With fibers that are not easily wet or swollen with water, and which we choose to call "hydrophobic" fibers, the problem with which the dyer is faced is greatly magnified and taxes his ingenuity. In addition to the problem posed by the chemistry of the dyestuffs involved, there is the difficulty of bringing the stripping agent and the dyestuff into the same reaction environment.

There is not a clear-cut line that divides the many useful textile fibers into those which possess an affinity for water and those which do not, but rather one can array the various textile materials ranging from those showing extreme hydrophobicity through those materials that are intermediate in character to those showing a marked tendency to associate with water.

We have chosen the following principal fibers showing this hydrophobic characteristic: the vinylidene chloride fiber Saran, the acrylic fibers Dynel, Orlon, Acrylan and X-51, the polyester fiber Dacron, the polyamide fiber nylon and the cellulose acetate fiber.

The possibility of using high temperature techniques for stripping Dynel was considered. Temperatures above 220° F. should not be used on this fiber.

The most effective procedure for Type 41 Orlon was found to be



Werner Von Bergen (center) of Forstmann Woolen Co. is presented the 1952 Olney Medal by President C. Norris Rabold (right), as Walter J. Hamburger, master of ceremonies, looks on.

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with ten per cent sodium chlorite at the boil and adjusted to a pH three to four with nitric acid. Stripping with sodium chlorite did not affect the fastness test of the redyed samples. On Type 41 Orlon the only excellent strips were obtained by using acidified five per cent sodium chlorite. Reasonably good color removal was obtained with 30 to 50 per cent sodium chloride. Dacron fiber is most successfully stripped with a two-bath procedure consisting of acid sulfoxylate formaldehyde followed by sodium hypochlorite or sodium chlorite. A stable carrier such as monochlorobenzene or benzoic acid increases the efficiency of the strip with sodium hypochlorite and sodium chlorite. Sodium chlorite with either nitric acid or a quaternary ammonium compound proved to be the most efficient stripping agent for Dynel. Swelling agents were effective in stripping both acetate and acid dyes.

Saran was most effectively stripped by treatment with sodium chlorite in the presence of nitric or benzoic acids. Neutral sodium hypochlorite was an efficient stripping medium for Acrlan. Treatment with a large volume of soap solution proved to be a simple and effective procedure for stripping of the dispersed acetate colors from cellulose acetate. On nylon the use of a large volume of soap solution was effective on dispersed acetate colors and ordinary acid colors. A two-bath treatment, zinc sulfoxylate formaldehyde followed by sodium chlorite proved to be the most effective general strip. With X-51, Textone followed by sodium hypochlorite was found to be a satisfactory stripping procedure.

An exhaustive study of the stripping of color from the hydrophobic fibers revealed that two basically simple procedures were found to be most effective: (1) physical removal of color by use of large volumes of dilute soap solutions; (2) chemical removal of color by use of sodium chlorite.

**VARIABLES AFFECTING DYE FIXATION IN PADDING—*New York Section—(Third Prize)***—After reviewing the very scant literature on pad dyeing, we chose the following variables as subject for further investigation: influence of pretreatment of cloth; influence of temperature of padding; influence of treatment of cloth after padding, particularly the effect of time of lay-up before drying; influence of temperature of drying; influence of dyestuff classes; and influence of additions to padding liquor.

We selected one type of cloth which is normally used for padding which would present greater difficulty than a spun cloth. This type was a 92x64 pigment taffeta viscose rayon. Any results which were obtained on this cloth we felt would be readily reproducible on other constructions. For the same reason we worked entirely with direct dyeing colors, as the factors influencing their fixation in padding is not well known.

Our pretreatment was limited to what we would consider normal processing for pigment taffeta. Either a simple rope scour with a synthetic detergent and a polyphosphate, or a caustic pretreatment in open width preceded the rope scour. Since this type of cloth is not usually sized with starch, no enzyme desizing was necessary. We decided to pad at two different temperatures: 130 and 180° F. The former temperature was recommended by Dr. Douglas; the higher temperature is normally used in padding operations. We were especially interested in the improvement in fixation of the dyestuff if the material were allowed to remain in the wet state for

varying lengths of time before drying. We also decided to check the effect of ageing wet and dry goods in a rapid ager. Our interest in influence of temperature of drying was to see if a variation in the drying temperature had any effect on the fixation of the dyestuff. In actual practice the goods would necessarily be dried at a fairly high temperature. In our trials we used representative dyestuffs from each of the three classes as set up by the S.D.C. To make any attempt to check all possible additions to the padding liquor would be a tremendous task. Since the solubility of the dyestuff appeared to be an important characteristic, we only investigated the additions of solubilizing agents on the fixation of the color.

It is obvious that our conclusions are based on the results obtained with the representative dyestuffs which we used. However, the results obtained in the latter trials, particularly the practical runs using plant equipment and 850-yard rolls, were so uniformly consistent that we believe they are indicative of the improvement in fixation obtainable with the general range of colors that are regularly used in padding.

The effect of a caustic treatment on the pigment taffeta was very apparent. In all cases, causticizing gave a fuller and brighter shade. In spite of the heavier shades of the causticized material, fastness tests indicated that the fixation of color was at least as good, and in many cases better than that obtained on comparable uncausticized samples. It might be pointed out that the difference due to the caustic pretreatment would vary with the methods used in causticizing the material.

Actually, the temperature of padding, when the material is dried immediately after padding, makes very little difference. Only when the padded rolls are laid up before drying has the temperature of padding any importance, in which case the temperature has a definite bearing on the results.

The time of laying-up after padding is an important factor in the fixation of direct dyes. There is a sharp increase in fixation in the first six hours of storage, after which there is a gradual improvement in fixation for a further six hours. The higher the temperature maintained within the padded roll the more rapid and more complete is the color fixation and the shorter the laying-up time required to obtain satisfactory fastness. Therefore, any means which can be employed to produce a high temperature padding, and to maintain the highest temperature possible in the stored roll, will increase dye fixation. Drying immediately after padding did not give good fixation in any instance.

We did not observe any significant difference in the color fastness or shade of any of the samples dried at temperatures varying from room temperature to 250° F. Although the spectrophotometric readings of the wash tests showed minor variations, the differences were slight. The samples dried at higher temperatures were not, in all cases, better than those that were air dried. Therefore, we concluded that the temperature of drying has very little effect on color fastness.

The colors we selected for experimentation were chosen from each of the three classifications as adopted by the Society of Dyers and Colorists. In our later trials only those direct colors which were considered to have good wash fastness were selected. Most of these colors would normally fall in Classes II and III. In our plant runs, colors from each of the classes gave excellent results. The levelness, shade, and color fastness were just as acceptable as the beaker dyed samples. The improvement was particularly significant



This year's officers of the A.A.T.C.C., seated at the convention banquet head table, were (left to right): A. E. Sampson of National Aniline, assistant treasurer; H. C. Chapin of Lowell Textile Institute, secretary; A. T. Brainerd of Ciba, vice-president; W. R. Moorhouse of National Aniline, treasurer; S. L. Hayes of Ciba, vice-president; and A. W. Etchells of Hellwig Dyeing, vice-president.

with the Class III colors which in our preliminary padding trials, exhibited dull shades of poor washfastness.

Since we achieved good fixation without any additions to the padding solution, we did not continue our experiments beyond the original trials.

We believe our padding experiments, storing the rolls before drying and keeping the rolls as warm as possible, has suggested a new approach toward good color fixation on padded materials. We also feel that this technique could be applied to all cellulosic materials and possibly to acetate rayon, besides the viscose rayon fabric which we used.

**A STUDY OF NEW TECHNIQUES IN WARP SIZE PREPARATION—Southeastern Section**—The laboratory phase of this work involves a study of unmodified rice, potato, wheat, corn starches and sago and tapioca flours with respect to paste behavior during the cooking cycle and the effect of high pressure homogenization on paste viscosities.

For the cooking cycles, the Brabender Viscograph was used. The starch to be tested was mixed with sufficient water to bring the total volume to 450 ml. The suspension was stirred for one minute with an electric stirrer and placed in the Brabender instrument. With the cooling coil in a "down" position, the thermoregulator was set to rise from 25° C. to 92° C. (197.6° F.) at a constant rate of 1.5° C. per minute. The time required for this temperature rise was 45 minutes. The temperature was then held constant at 92° C. (197.6° F.) for an additional 75 minutes making a total time of two hours for the cooking cycle. The moisture loss during the cooking cycle was determined. The viscosity limits imposed by the Viscograph determined the starch concentrations employed. The instrument automatically recorded the viscosity history of the entire cooking cycle, the units of viscosity expressed in Brabender units.

In all of the laboratory homogenizations studies, a starch concentration of one pound per gallon of slurry was employed. The prepared slurry was pre-heated by passing it through a heat exchanger. In order to study the effect of various homogenizing pressures on the resulting paste viscosities, the slurries were, in every case, heated to 188° F.

From the maximum viscosity stability data for the various starch pastes, as well as the viscosities after 30, 60 and 75 minutes of cooking at 92° C. (197.6° F.), the viscosity stability ratios have been calculated. This ratio is simply a comparison of the amount of change in viscosity between two selected points in the cooking cycle. It should be noted that during these cooking cycles, there is a moisture loss of approximately ten per cent; and a stability ratio of 1.00 does not truly indicate stability but simply means that, in a given time interval, the rise in viscosity due to moisture loss would be exactly compensated by a decrease in viscosity due to breakdown of the starch pastes. In no case was an increase in viscosity observed after the points of maximum viscosity had been reached.

It is noted that there is a leveling out of the apparent viscosities as the homogenizing pressure is increased. As the pressure of homogenization is increased, there is a marked increase in the temperature of the starch pastes. The gradual fall in viscosities at the higher pressures is due, in part, to these higher temperatures at which the viscosities are determined. The viscosity measurements with the Brabender Viscograph were all made at 197.6° F.

The committee transported the same instruments used in the laboratory to the mill warp size preparation areas for obtaining the apparent viscosities of the size mixes prepared under actual mill processing procedures. All of the co-operating mills were sizing carded cotton warp yarns with mixes containing pearl corn starch, and size preparation was being accomplished with Girdler Corp.'s Votator, Manton Gaulin's homogenizer, and Scott & Williams' Hydropulse.

The Votator size preparation unit accomplishes high temperature cooking (256° F.) by passing a cold slurry mix through three processing cylinders which are steam-jacketed. Heat transfer is effected by high pressure steam being introduced into the annular space around the inner slurry chamber, and with scraper blades rotating at relatively high speed within the slurry chamber to expose a constantly changing portion of the slurry to the heat transfer surface of the processing cylinders. With the Votator at Mill A the mix was processed continuously at the rate of 250 gallons per hour, forced through an extrusion valve so as to produce 100 p.s.i. back-pressure, and delivered to storage kettles in distant slasher rooms through steam-jacketed stainless steel pipes.

An interesting feature of this size preparation system is that the cold slurry mix is prepared in the starch storage area in batches of 376 gallons at a time by measuring the addition of 345 gallons cold water to the slurry mixing tank through re-set automatic water meters, adding the sizing auxiliaries by volume measurement, and emptying into this mix three 100-pound bags of starch.

Mills B and D, employing Gaulin homogenizers, first introduce live steam into the mixes through open circular coils located at the bottom of cooking kettles to bring the temperature of the batches to 205° F. At this point the finished volume is measured and adjusted to the desired level with the addition of hot or cold water, and the viscous heated batch is then pumped to the homogenizer. At Mill B, the practice is to leave the undelivered portion of the heated batch which adheres to the bottom and sides of the cooking kettle in the kettle to comprise a portion of the next mix; at Mill D this residue is cleaned from the kettle with cold water and flushed out before water is drawn through meters for the mix following. At Mill B the steam is cut off the heating kettles after batch temperatures reach 205° F., whereas Mill D maintained batch temperatures at 205° F. with live steam during homogenization of the batch.

Cold slurry preparation for the Hydropulse mixes is similar to that employed with the Votator; the cold slurry mix is transferred to the Hydropulse unit which consists of a heat exchanger connected in tandem with a high pressure homogenizer so that the mix is heated and homogenized in a continuous flow system. A booster pump on the heat exchanger forces slurry through the steam-jacketed tube heater and thence to the intake of the high pressure homogenizer. Heat transfer is effected with steam at 50 to 90 pounds pressure and steel scraper blades are rotated rapidly within the slurry chamber to cause a changing portion of the heated slurry to be exposed to the heat transfer surface of the steam-jacketed heating tube. The temperature of the heated slurry mix as it is pumped to the homogenizer is instrument controlled in the range 188 plus or minus 40° F. and homogenizer pressures of 1,500 p.s.i. are employed to continuously process 150 gallons of finished size per hour.

The value of adapting instrumentation to continuously record and/or control size mix viscosity in flow systems is evident. These



Other head table personages who are leaders in American Association of Textile Chemists and Colorists work (left to right): R. W. Jacoby of Ciba, vice-president; T. R. Smith of Wiscasset Mills and W. D. Appel of the National Bureau of Standards, past presidents; C. W. Dorn of J. C. Penney Co.; R. C. Geering of Princeton Knitting Mills; and C. Z. Draves of General Dyestuff, past president.

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instruments should signal the need for a manual or automatic correction when size is not being prepared within pre-determined viscosity limits. The mill survey indicates fields for future investigation on the effect of homogenizing valve surfaces on paste viscosity, and the relationship that may exist between the congealed paste characteristics and sizing properties.

This survey indicates the value of mill viscosity determinations with continuous size processing equipment as a scientific basis for insuring more uniform viscosities to reduce deviations in the added size content of warp yarns in the slashing operation.

**TEXTILE ODORS AND DEODORANTS—Northern New England Section**—With tasting and smelling, we approach an area of the vague and unknown. Fortunately as textile chemists we are not concerned with the gustatory sense of taste. Now smell is different, at any moment the textile chemist may have a problem involving odor. It may be concerning the creation or abatement of a nuisance. More likely it involves the rancidity of a finishing oil, or the decomposition of a shrinkage control resin. In any case it behooves the chemist to inform himself so far as possible in the realm of perfumes, odors, smells and stenches. You note the order in which these terms are given, and this is perhaps as it should be, as far more than one is apt to appreciate the distinction between is rather quantitative than qualitative.

This paper is an attempt at clarification of the subject, to distinguish and demonstrate what is provable from what is imaginary or absolutely not so. It is based partly on many years of observation, and partly on some current and continuing laboratory work.

The sense of smell varies tremendously with the individual, probably far more than tone deafness or color blindness, but unless cultivated and trained is surprisingly non-discriminatory. Sulphur dioxide and chlorine to the chemist are antithetic; to the ordinary workman or lay visitor at the heavy chemical plant, they are indistinguishable. He notes the irritating quality, but nothing more.

To affect the olfactory nerves a substance must be in the gaseous or vapor phase. It may be acid, ammoniacal, alcohol, ether or ester or non-ionic, water soluble or insoluble. In regard to this latter statement, it is probable that considering the extreme dilution at which they are detectable, all odoriferous substances are water soluble. The perfumes are, in general, alcohols, esters, or ethers, the stenches acidic or amines. While odors are volatile they have an extreme tendency to be adsorbed by textile fabrics. This is particularly true of the stenches. By themselves, the perfumes do not have this permanency, but it is achieved by augmenting them with what is known as fixatives. In some respects fixatives resemble plasticizers in the resin industry. They are solvents and have some volatility. Frequently they have somewhat objectionable odors, e.g., ambergris and civet, but these are subordinated to the more volatile ethereal odors.

This property of the less volatile, more permanent objectionable odors to be subordinated to the more volatile pleasant odors should be emphasized, as it is the principle on which most commercial deodorants and so-called air refreshers are based. Unfortunately, the olfactory nerves are readily saturated with a given odor, and

## E. E. House Wins Chemical Co. Prize

E. E. House of North Carolina Finishing Co., Salisbury, N. C., won the Westinghouse roaster and cabinet given away by the Royce Chemical Co. at the A.A.T.C.C. convention. To win, he guessed within 18.2 grams the weight of 6,055.3 grams of vatrolite (sodium hydrosulphite) contained in a dessicator displayed at the Royce booth. Mr. House's guess of 6,073.5 grams was the closest of 698 entries. A. P. March of Smith, Drum, Philadelphia, won the second prize, a Dormeyer Friwell, with his guess of 6,100 grams. Third prize, a Zenith clock radio, went to R. M. England, Monsanto Chemical Co., Everett, Mass., for a guess of 6,009.

if one smells some jasmine or other popular air refresher odorant just before he enters a movie theatre, he will smell the previous audience rather than the refresher. By the same procedure one may determine the constituents of a mixture of solvents, by first saturating the nose with the most obvious and then the next. Up to four or five ingredients may thus be recognized. By sniffing the straight benzaldehyde first, one may detect the rancidity of a tallow that has been temporarily masked by milbane. Masking, while it may sometimes serve the same purpose, is not true deodorizing. This can be effected by adsorption by activated carbon and clays and by actual destruction of the odoriferous substance by chemical combination. Activation of a carbon or a clay is simply the driving out of occluded gases by heat. At one time so-called Ozonizers had some vogue as deodorizers. It was claimed a high voltage discharge of static electricity produced ozone that oxidized the odoriferous substance. Under certain conditions these worked, but they were relatively expensive, and the oxidizing agents were nitrogen oxides, not ozone. An arrangement by which nitric acid is dropped on a hot plate would have accomplished the result at a tithe of the cost. More effective chemical controls are the neutralization of odoriferous acids like butyric and caproic by ammonia vapors, the condensation of amines by aldehyde vapors (formaldehyde and acetaldehyde), the combination of sulphides with heavy metal, e.g., lead, copper, silver and mercury.

Recently chlorophyll has achieved great publicity and notoriety as the wonder-compound, the marvelous molecule that somehow miraculously absorbs, prevents or destroys all odors. Now, we as chemists should be the last to decry the importance of chlorophyll. Animal life on this planet, did not, could not exist, without this complicated heterocyclic arrangement of carbon, hydrogen, oxygen, nitrogen and magnesium atoms. Should chlorophyll disappear, so would mankind, animal and vegetable life. Only marine life would exist, as it did before chlorophyll came into being. Yet the value of chlorophyll as a deodorant may be questioned. As a speaker said at the recent meeting of the American Pharmaceutical Association—"The time has come to take chlorophyll from the advertising men and turn it over to the chemists." That is why we started our experimental work. That is why this paper is written.

Our equipment is simple; four wide mouth bottles or flasks in line connected by glass tubing to a suction line. The connection is such that air is successively drawn through the bottles, entering at the top and drawn from the bottom. To ensure longer contact with the contents of the bottles, the suction is intermittent, about the frequency of ordinary respiration. Bottle No. 1 contains an odoriferous substance, No. 2 carded cotton, No. 3 the deodorizer and No. 4 carded cotton. After the draught has been running long enough to give No. 2 a reasonably strong and persistent odor, this time determined by experiment, bottles 2 and 4 are disconnected and stoppered. Meanwhile, fresh odoriferous substance is put in bottle No. 1 and a new deodorizer in bottle No. 3. Since this is a virgin field, the number of permutations and combinations is vast. Gradually they can be classified. After standing some hours, bottles 2 and 4 may be sniffed. Of course sniffing No. 4 first as the stronger odor always inhibits the detection of a weaker odor of the same kind. If bottle No. 4 smells nearly as strongly as No. 2, it would seem one can safely say the deodorizer is not efficient. While one cannot weigh or photograph the results, one can re-seal the bottle and let the next sniffing jurist record his opinion. Thus far we have devoted our attention primarily to chlorophyll and its various



Making official appearances at the annual banquet were C. Norris Rabold (left), 1952 president of the A.A.T.C.C., and George Linderberg (right) of Synthron, Inc., convention chairman.

formulations. We have tabulated our most characteristic results. We have some bottles for the inquisitive to smell. Perhaps our reasoning is faulty, or our procedure too rudimentary, or for a dozen other reasons our findings are inaccurate, but at least we hope we made a beginning in trying experimentally to determine what is fact and what is fiction in the realm of odors.

**THE EFFECT OF CONDITIONING ON CREESE RECOVERY ANGLE—Piedmont Section**—It is common practice in the textile industry to apply thermosetting resins in fabric finishing. These resins are applied to rayon constructions, blends of rayon and acetate (and other new synthetic fibers). They are also applied to cotton dress fabrics in a large way and to a lesser extent to woolen fabrics.

There are a number of reasons for applying thermosetting resins, but this paper concerns itself primarily with the effect of the resin to improve the recovery from creasing of the fabric. In the past the measurement of this property has been done by the TBL method, but in this study it was done by the newer Monsanto method. The values are loosely reported as the "crease recovery angle," since this is the jargon of the trade and since the exact phrasing is rather complicated.

It has been known (although not widely) that resin-treated fabrics require considerably more than a few hours of conditioning before reaching their optimum performance levels. It is perhaps less widely known that untreated fabrics, when allowed to condition for extreme periods of time (for example, several months) sometime show performance characteristics similar to resin-treated ones. Much of the information along these lines has been merely unconfirmed opinions or the results of superficial studies.

The fabric chosen for study was an all-rayon shirting. It has been desized and scoured before its use in the previously mentioned study on catalysts. Thus it had "aged" over a period of at least a year. When samples of this "control" are placed in the conditioning room for 24 hours, a crease recovery angle value of approximately 120° in the warpwise direction is noted. This same fabric when treated with 10-20 per cent solids urea formaldehyde and conditioned for 24 hours also yields a crease recovery angle of approximately 120°. The logical question arises "why treat with resin and achieve no enhancement of fabric?" We will rationalize that question as we proceed. First of all we recognize that improved "crease resistance" is not the only boon of resin treatment. However, it is probably as important, if not more so, than stabilization. At least it was the property that launched the whole development. Why then did our treatment "fail" in its objective?

We prepared (from the above-mentioned rayon fabric) what will be referred to in this paper as a "water blank." This sample was subjected to all the operations of resin treatment except that water alone was used in the padding operation. The crease angle after 24 hours conditioning is now 90° or lower. This startling loss of a performance characteristic is certainly a surprise, yet it was felt that if this fabric before treatment had a crease-recovery angle of about 120°, it might return to this higher value in time. Thus it is recorded that after 60 days of conditioning the water blank again approaches 120°.

Thus far we have reported findings without an effort to explain why some treated (and untreated) fabrics show improved crease recovery angle values over extended conditioning. It has been observed that untreated fabrics benefit more from this prolonged "aging" than do resin-treated ones. This would surely support the theory that resin treatment shortens the period of conditioning necessary to high performance areas as far as "crease resistance" is concerned. Thus a resin-treated garment is ready for use within a day or so after a cleansing operation, whereas one made from an untreated fabric would have to condition for many weeks.

It is probable that in the process of conditioning a fabric must rid itself of strains in order to achieve maximum performance. It is also probable that resin-treated cellulosic fabrics have fewer or less intense strains to recover from after becoming wet, due to the decreased swelling properties resulting from resin treatment. Thus a shorter period is required to relax the strains imposed by wet treatment.

We have implied that the "aged" control would yield high performance as a crease-resistance fabric since a reasonably high crease recovery angle has been measured. That implication has been fortified by "hand" considerations. Several observers who handled the fabric thought it had already been resin treated—based on its liveliness—although the weight of resin add-on was missing. An analysis was made to confirm the fact that no resin was present.

Thus, as long as such a fabric remained reasonably dry it would be expected to perform well. It is believed, however, that subjection to high humidity (body humidity, for example) would quickly lower its efficiency more so than the resin-treated counterpart.

One inescapable problem which this paper poses is the question of how long should samples be conditioned before testing should commence. It has been noted that results vary considerably from day to day. Such behavior imposes a burden on the quality control analyst, since it is impractical to wait several days or weeks to determine a result which the sales department wanted yesterday. The above mentioned procedure involving three rapid, consecutive dry cleanings may be a step in the right direction, but further work is needed to improve this situation.

We summarize the following observations and suggestions: (1) that untreated rayons upon long conditioning yield crease recovery angles in the range of resin-treated rayons; (2) that resin-treated rayons exhibit a much more rapid recovery of "crease resistant" properties, but that the 24-hour reading is usually greatly exceeded by extending conditioning; (3) that a "water blank" should be prepared in any comparison of treated and untreated rayons; (4) that since the 24-hour result is not characteristic of the ultimate and optimum performance of a resin-treated fabric, some way should be sought to achieve a better measure in a shorter period; (5) that the subjection of a resin-treated rayon to three rapid and consecutive dry cleanings before the 24-hour conditioning seems to be a feasible answer to the problem expressed in (4); and (6) that perhaps other physical tests should be viewed critically with special reference to conditioning considerations.

## Renew Support Of Wool Research Project

The Wool Bureau, on behalf of its affiliate International Wool Secretariat, representing wool growers of the British Dominions, recently advised Dr. John H. Dillon, director of the Textile Research Institute, that it has renewed its support of the wool research program, initiated at the institute four years ago. In a letter containing a check for \$10,000 as the first semi-annual contribution, F. Eugene Ackerman, president of the Wool Bureau, stated that the program typifies a "constructive example of international co-operation which seeks scientific results that know no nationalistic boundary lines. It is for the benefit of wool in all of its aspects, and regardless of its source."

The wool research project, conducted in the institute's laboratories in Princeton, N. J., was originally launched in 1949 by the Wool Bureau, on behalf of its two affiliates, the I.W.S. and the American Wool Council, which represents U. S. wool growers.

"As wool assumes each year a greater importance as the commercial fiber which is unparalleled when used alone, and which is more and more recognized as the necessary upgrading fiber in all blends and mixtures with other fibers, research as we are supporting must necessarily be of greater value to all elements of the wool industries," Mr. Ackerman wrote.

"The wool research project, which now numbers among its supporters such forward looking federal agencies as the Department of Agriculture and the United States Navy, and an increasing number of wool textile manufacturers, is another evidence of the vitality of wool as the most important fiber used by man," his letter stated.

Federal tax agents have notified "a \$10-a-week hotel bell-hop" that he owes \$6,372 in back income taxes. The unfortunate tip-collector probably is wondering where the federal agents got their tip.—*Times-Picayune*, New Orleans, La.

# Maintenance, Engineering & Handling

## Mill Electrical Problems & Their Remedies

By TITUS O. SILLS, Engineer, Cannon Mills Co.

**I**N discussing mill electrical problems and their remedies with the electrical departments of several plants, we selected for the discussion five of our most obstinate problems. They are: (1) loose connections; (2) cleaning and maintenance of switches and starters; (3) cleaning, lubrication and maintenance of motors; (4) flexible connections from starter to motor; and (5) grounds.

Loose connections present a problem which, according to the findings, is strictly of a human element nature. When soldered joints are used, the findings are that a lack of skill is the usual cause of trouble. In most cases, when solderless connections are used, the difficulty seems to be carelessness on the part of the electrician in tightening the devices. The greatest loose connection problem confronted is the connections on high current carrying main line terminals.

The use of compression type terminals and connectors has almost completely eliminated the loose connection problem for small conductors. A great deal of difficulty is still experienced on large solderless joints of high current carrying capacity, but quite an improvement is realized with the use of torque wrenches and close supervision in making the connections. By using torque wrenches, uniformly tight joints are assured. This gives a means of instructing the electrician specifically as to how tight the nuts and screws should be drawn. Torque wrenches are not universally used in the plants contacted, but their use is becoming more and more the standard practice.

Cleaning and maintaining switches and starters is an every-day problem in the industry. Because the dust and lint encountered in the textile industry presents a definite problem itself, cleaning is purposely separated from maintenance. The use of general purpose enclosures has been widespread in the plants contacted and, although NEMA 1A enclosures are now being used to a great extent, many thousands of general purpose enclosures remain in use and will continue to be a problem for many years.

The problem of cleaning and maintaining switches and starters has by no means been solved, but it has, in a great measure, been controlled. By setting up routine periodic cleaning and inspection schedules, many of the detrimental results of the problem are being eliminated. The switches and starters are cleaned periodically to remove foreign matter which might cause an arc-over to ground or a flash-over between phases. The contacts and working mechanisms of the starters and switches are inspected periodically to see that they are kept in good operating condition. Very promising results are being obtained with the use of portable vacuum cleaners, in addition to compressed air for cleaning the interior of the switches and starters. The use of this equipment has only recently been installed in one of the

plants; therefore, definite conclusions as to the results cannot be drawn at this time.

Cleaning, lubrication and maintenance of motors has, since the beginning, presented a problem and, no doubt, will always do so. Many things have been done to reduce these problems such as the use of ball bearings which greatly reduce the lubrication frequency, and the use of screenless self-cleaning textile type motors which greatly reduce the cleaning problem. Even so, there are many thousands of general purpose, sleeve bearing, waste-packed and ring-oiled motors which continue to present the problem. This is another case in which the problem stays with us, yet it can be more or less controlled by routine periodic cleaning and lubrication schedules, along with periodic checks on air gap clearances and insulation and ground tests for the more important motors.

After considerable study and careful consideration of data taken throughout many years of operation, a cleaning and lubrication schedule was set up for the largest plant contacted and is, from all indications, operating completely satisfactorily. The schedule is broken down so minutely that the cleaner-lubricator knows each hour, day, week or month exactly what he is to do and, although some of the operations repeat daily, weekly, monthly, quarterly, semi-annually, and annually, the over-all schedule is set up on a 50-week basis. As stated before, all indications are that the system is operating successfully. As quickly as it is definitely determined that the system is a success, other plants will adopt the system.

In 1947, a motor record system was installed in one plant containing 1,888 motors totalling 6,536 horsepower. Among other reasons, the record system was installed in this plant to determine such things as: How much can be spent to prevent a bearing failure or a winding failure? What causes bearing failures? What causes winding burnouts? How can the maintenance cost for motors best be reduced?

After five years of collecting data, the engineering department of the plant is now in the process of working out the answers to some of the questions concerning the motors. For instance, it has been found that in this particular plant the windings of 2.34 per cent of the motors are being lost per year, or the windings of 2.75 per cent of the installed horsepower is being lost per year. It has also been determined that 2.18 per cent of the motor bearings are being replaced per year, or the bearings of 3.6 per cent of the installed horsepower are being lost yearly. Many of the causes of these losses have been determined and work is now being done on ways to reduce the losses by eliminating as many of the causes as possible. Definite maintenance cost figures are also being tabulated. It is readily seen that many

of the maintenance problems for electric motors will no doubt be solved by use of the data obtained.

The problem of flexible connections has throughout the past years been a very annoying one. The connections in question are those from the starter to the motor on machinery drives which require frequent changes or adjustments and which, consequently, cannot be connected with rigid conduit. Until recently, for the want of something better, these connections have been made through spiral-wound flexible metallic conduit, such as Greenfield. The flexible joints and ends of the conduit continually pull loose and expose the conductors. In each case, certain hazards are created. This is an every-day problem. The insurance companies continually complain of the hazardous nature of this condition. Many fires result from the short circuits which develop in the unprotected conductors. In the plants contacted, it has been necessary to work crews of men each week-end, repairing these connections.

Approximately five years ago, five of the plants contacted began using three-conductor with ground, non-metallic, flexible cord with an oil-resistant sheath of the mine cable type. With the use of this flexible cord, the flexible connection problem has been almost completely eliminated in these plants. At the present time, 14 of the contacted plants are using this flexible cord. Only one problematic condition of any consequence has developed in the use of the flexible cord. This is the breakdown of the rubber insulation on the individual conductors due to oil which, in some cases through over lubrication, gets into contact with the connection in the motor where the breakdown generally occurs. The reaction of the oil and rubber is accelerated by the heat of the motor. Two ways to eliminate this problem are: first, by proper application of lubricant to the motor bearings and, second, by the insulation of the conductors with oil-resistant material.

Unanimously, among the maintenance men, grounds are by far the greatest electrical maintenance problem. This is no doubt largely due to the fact that the power distribution systems under discussion operate from isolated delta transformer banks. It is endeavored at all times to determine the cause of grounds when they occur. A few of the causes are: the breakdown of insulation due to age or natural deterioration, improperly insulated connections due to haste or carelessness on the part of the electrician, the combination of aged insulation and high humidity where moisture condenses in the conduit and fittings and thus causes a breakdown of the insulation, and the breakdown of insulation due to vibrations or mechanical injury, especially in the weaving departments.

In the high humidity areas where a great deal of the trouble is encountered, the number of grounds has been considerably reduced by sealing all conduits which pass through the floor or the walls into a cooler atmosphere. These conduits are sealed with regular electrical sealing compound at the terminal points of the conduits inside the warm, humid room; or, lately, it has been done with a patented sealing bushing which is installed on the ends of the conduit. This does not entirely eliminate condensation, but it greatly reduces it. Another solution to the condensation problem in the conduits is to install the conduit in the floor instead of under it which, in effect, keeps the conduit in the same atmosphere at all times and, in most cases, completely eliminates condensation.

In almost all the switch rooms of the plants contacted,

ground indicators are in use. These indicators show whether or not there is a ground on the system but, in no way do they locate the fault. In the past and to date, most of the grounds are found by a process of elimination, a process with which all of you are no doubt familiar. This, as you know, can cause the shutdown of many machines and, consequently, cause great loss of production if it becomes necessary to locate the ground immediately. Therefore, when it is possible to do so, the correction of the ground is put off until the week-end shutdown period. A ground locator which can be connected into the system and used while the system is in operation is being used in two of the plants contacted with very great success. With this detector, it is possible to send a signal out over the system and follow it directly to the point of fault, thus finding the ground immediately and, in many cases, it is possible to make repairs at once rather than put this work off until the week-end. The results so far indicate that considerable savings can be realized by the use of this equipment.

From personal observation, the greatest electrical problem which confronts us today is the lack of trained electricians who study and take pride in their work. Somewhere along the line, our young men seem to have failed to grasp the desire to learn and the pride of accomplishment necessary to become a good electrician. Our search for the solution of this problem is endless. Have we in industry failed to create the necessary interest required to draw young men into this field? The problem in other trades does not seem to be as acute as it is in this particular one. What is the solution to the problem?

Mr. Sills' paper was delivered during the Carolinas Conference on Electrical Engineering in the Textile Industry, held Nov. 6 and 7 at Raleigh, N. C.

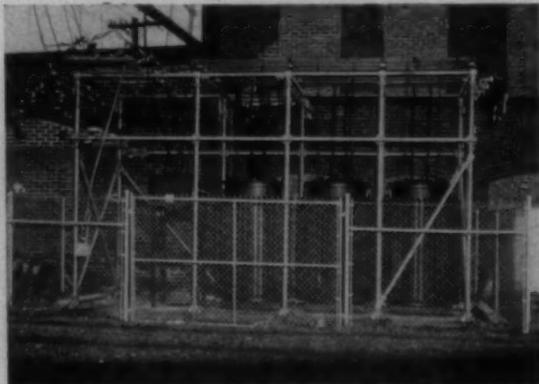


Photo showing Sub-Station structure furnished and installed by Southern Electric Service Company, Inc., Charlotte, North Carolina. This was designed for 2400 volts primary to 600 volts secondary for conversion to 4160 volts, 3 phase, Wye connection primary to 600 volts secondary.

For Highland Park Manufacturing Company, Charlotte, N. C.

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## PERSONAL NEWS



Joseph Bee Templeton, superintendent of Lydia Cotton Mills, Clinton, S. C., recently was named vice-president in charge of manufacturing of Lydia and Clinton Cotton Mills. Mr. Templeton succeeds the late David S. Cook and assumes his new duties

Jan. 1. He has been superintendent of Lydia Cotton Mills since June, 1951, and a large expansion and modernization program has taken place under his supervision. Before joining Lydia Cotton Mills Mr. Templeton was associated with Abney Mills and the Springs Cotton Mills. He is a past chairman of the South Carolina Division of the Southern Textile Association.

Roland H. Cline has been appointed manager of the Charlotte, N. C., district office of the Allis-Chalmers general machinery division. Mr. Cline, who succeeds the late William Parker, has been a representative in the Charlotte office since September, 1949. He joined Allis-Chalmers in 1946 and was a representative in the Atlanta district office before being assigned to Charlotte. A native of Arcadia, Fla., Mr. Cline is a graduate electrical engineer of Duke University.



Ira S. Hurd has been appointed director of sales promotion for Warwick Chemical Co., a division of Sun Chemical Corp. Mr. Hurd formerly was general sales manager. This appointment completes plans for expanding the scope

of Warwick's New York promotional office and centralizes all phases of the company's promotional activities under Mr. Hurd's direction. A graduate of Lowell (Mass.) Textile Institute, Mr. Hurd's previous associations include Glenlyon Print Works and Dan River Mills.

For the purpose of co-ordination of cotton fabric production in the Dunean Group of J. P. Stevens & Co., Inc., George P. McClenaghan, a vice-president of Stevens, and R. Carter Henry have been appointed assistant executive officer and general manager, respectively, of the Apalache Plant at Greer, S. C., of the Victor Monaghan Co. Division. Mr. McClenaghan also is assistant executive officer of the Utica & Mohawk Cotton Mills Division, Appleton Co., Piedmont Mfg. Co. and Jonesville Mills. Mr. Henry

is general manager of Piedmont Mfg. Co. and Jonesville Mills. . . . James Harrell, a vice-president of Stevens, also has been named an assistant executive officer of the Utica & Mohawk Division, with plants at Clemson and Seneca, S. C. Mr. Harrell is also executive officer of the three units in the Delta Finishing Co. Division of Stevens.



E. Kent Swift, Jr., has been appointed director of research of Whitin Machine Works, Whitinsville, Mass. A graduate of Harvard, Mr. Swift attended the Harvard Graduate School of Business Administration. Prior to his appointment to his present post, Mr. Swift worked in all of the major departments of the company.

William R. Fox, manufacturer's agent of Providence, R. I., recently was named New England agent for Ragan Ring Co., Atlanta, Ga., producer of spinning and twister rings; and Russell A. Singleton & Sons, Blanco, Tex., manufacturer of long draft aprons.



Dr. Max E. Bretschger (*left*), formerly vice-president of Buffalo (N. Y.) Electro-Chemical Co., Inc., has been elected president of the company to fill the vacancy created by the death of Charles A. Buerk. Dr. Bretschger's long association with Mr. Buerk in management of the company insures continuation of the policies which have brought Buffalo Electro-Chemical Co., Inc., to its present position of importance in the chemical industry. . . . Frederick A. Gilbert, formerly manager of Becco's Vancouver, Wash., plant, was elected vice-president. Mr. Gilbert will make his headquarters in Buffalo. Charles J. Kellogg, formerly comptroller and secretary, was elected secretary-treasurer. In addition, George G. Crewson, director of engineering, was elected to the board of directors.

Two new members were added to the board of directors of Burlington Mills Corp. recently at a meeting in the company's merchandising headquarters in New York City. They are John L. Hutcheson, Jr., and S. Lewis Hutcheson. The two new members are brothers and recently joined Burlington

Mills with the acquisition of Peerless Woolen Mills. John L. Hutcheson, Jr., is president of Peerless Woolen and has directed its manufacturing operations for 23 years. S. Lewis Hutcheson is a vice-president and sales manager for Peerless. Both men continued with Burlington in their same positions after the acquisition of Peerless. The Peerless president resides at Rossville, Ga., manufacturing headquarters for Peerless. S. L. Hutcheson is located in New York City.

J. G. Lecrone has been appointed manager of the Bridgeton, N. J., plant of Aberfoyle Mfg. Co. Mr. Lecrone formerly was assistant manager of Aberfoyle Mfg. Co., Ltd., Guelph, Ont., Canada, and prior to that was assistant plant manager at the Aberfoyle plants in Chester, Pa., and Belmont, N. C. . . . A. S. Wilson, Jr., company engineer who was in charge of building the Bridgeton plant, has left Bridgeton to assume new duties in the company's executive offices in Philadelphia. Mr. Wilson was plant manager at Bridgeton during the organizational period.



Norman A. Cocke, Jr., has been promoted to district sales manager at Charlotte, N. C., by American Viscose Corp. Mr. Cocke, who was named assistant manager of the Charlotte office last Spring, will on Jan. 1, succeed Henry K. Kelly, who will retire Dec. 31. A native of Charlotte, Mr. Cocke is a 1936 graduate of the Massachusetts Institute of Technology and was employed for three years with the Calco Chemical Division of American Cyanamid Co., before joining Avisco in 1939. . . . Mr. Kelly, who has completed 25 years with Avisco and has made his headquarters at Charlotte since 1932, was the guest of honor Dec. 1, at a monthly meeting of the Charlotte Textile Club.

Fred W. Fraley, a vice-president of Diamond Alkali Co., Cleveland, Ohio, who has been on loan to the U. S. Government, returned to Diamond from Washington on Dec. 15. Mr. Fraley has been serving as assistant administrator in charge of the chemical, rubber and forest products bureau of the National Production Authority, Department of Commerce. In announcing Mr. Fraley's return, Diamond President Raymond F. Evans explained that Mr. Fraley's duties will involve special assignments, including relationships of the company with



## PERSONAL NEWS

the government and the chemical industry as a whole.

Carl R. Harris, (*at left, below*) has been elected to the newly-created office of executive vice-president of Erwin Mills, Inc., Durham, N. C., and Ralph T. Marshall



(*right*), who recently joined the organization, has been elected vice-president and treasurer and a member of the board of directors. Mr. Harris joined Erwin Mills in 1928 and except for a brief tenure as general superintendent of Aragon-Baldwin Mills, Chester, S. C., has served the company continuously in various executive capacities. Mr. Marshall, who began his textile career in 1918, is a former president of Utica & Mohawk Cotton Mills, Inc. . . . E. G. McIver, Jr., formerly general assistant in manufacturing, has been promoted to assistant manager of Erwin's Durham operations.

J. M. McSwain is now night superintendent of Eastman (Ga.) Cotton Mills. . . . Recent promotions at Eastman include: Shirley Barron, promoted to second shift carding and spinning second hand; G. W. Holt, third shift carding and spinning second hand; and W. E. Fowler, third shift weaving second hand.

J. Morton Curran, Jr., chairman of the board and director of Summerville (Ga.) Mfg. Co., and president and director of North Georgia Mills Co., recently was elected a director of A. S. Barnes & Co., trade publishing firm for the sports industry.

Mrs. Ethel Thomas ("Aunt Becky") Dabbs, who for 17 years was a circulation representative for TEXTILE BULLETIN, recently celebrated her 82nd birthday anniversary by making her first airplane trip—a 3,000-mile hop to California to visit her granddaughter and her great-grandson.

Paul B. Wishart has been named to the newly-created position of general manager of Minneapolis-Honeywell Regulator Co. Mr. Wishart, who will continue as a vice-president of the firm, also was elected to the board of directors. He has been with Honeywell for 11 years, and since 1945 has been vice-president in charge of manufacturing in the company's Minneapolis plants.

David Harrison, a junior at Georgia Institute of Technology, Atlanta, was named a member of Phi Psi, national textile fraternity, at the recent initiation of Theta Chapter. He is the son of S. M. Harrison, vice-president of Echota Cotton Mills, Calhoun, Ga.

W. O. Cathcart recently became associated with Textron Southern, Inc., as superintendent of that firm's Southside Plant at Anderson, S. C. Before joining Textron, Mr. Cathcart was associated with Burlington Mills Corp.



Recent additions to the sales staff of U S Bobbin & Shuttle Co., Lawrence, Mass., are James E. Oliver (*at left, above*), Julian T. Pool (*at right, above*) and M. L. Johnston (*left*). Mr. Oliver, formerly with Allen Beam Co., joins the firm as sales engineer for the warper beam division. Mr. Pool will work out of Macon, Ga., covering the Georgia, Alabama and Louisiana territory. Mr. Johnston, of

Charlotte, N. C., becomes sales representative for the eastern Carolina and eastern Virginia territory. Prior to joining U S Bobbin & Shuttle Co. Mr. Johnston was associated with National Ring Traveler Co.

B. E. Geer, prominent retired textile manufacturer of Greenville, S. C., was honored recently when a section of U. S. Highway 276 from near Greenville to the North Carolina state line was named the "B. E. Geer Highway."

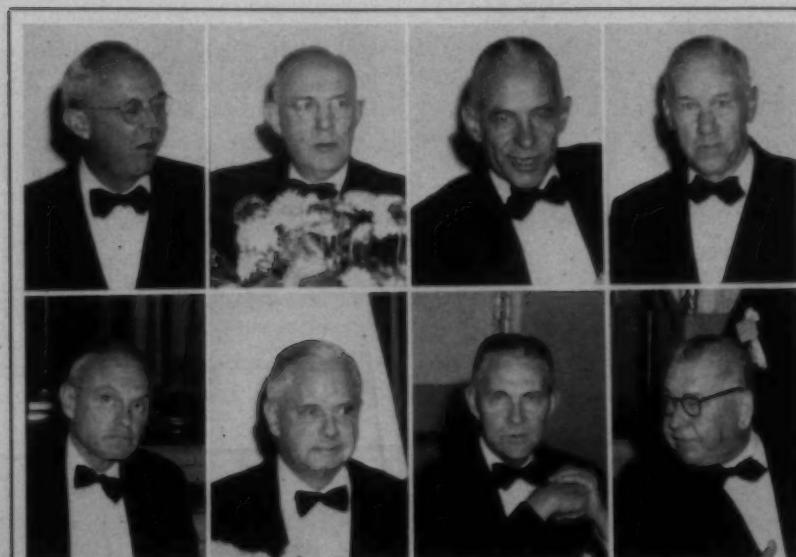
Roger L. Schaefer, formerly with Monsanto Chemical Co., has been named a group leader in the research and development department of the Chemstrand Corp., Decatur, Ala. . . . Two new chemical engineers in pilot plant spinning operations of the research and development department are Walter H. Hammond, formerly with Monsanto, and James H. Purnell, Jr., previously with Du Pont and Hercules Powder Co.

Cary C. Boshamer, head of three textile plants at Clover, S. C., in association with two Baltimore, Md., building contractors recently acquired majority ownership of the Pimlico race track at Baltimore. Pimlico is the home of the Preakness and the Pimlico Special, two of horse racing's famous attractions.

Arthur H. Kuljian, chief mechanical engineer for the Kuljian Corp., Philadelphia, Pa., recently was elected vice-president in charge of engineering.

G. A. Batte, Jr., assistant treasurer of Cannon Mills Co., Kannapolis, N. C., recently was elected to fill the vacancy on the firm's board of directors created by the death of Martin L. Cannon of Charlotte, N. C.

Ralph Tanner, director of advertising and sales promotion of Mooresville (N. C.) Mills, has been appointed co-ordinator of sales and manufacturing, a new post in the firm. Mr. Tanner will continue to work out of the company's New York City offices. . . . Clarence E. Wylie, assistant purchasing agent for Springs Cotton Mills for the past 18 years, has been named purchasing agent



**NEW ENGLAND TEXTILE EXECUTIVES** whose firms have important branch plants in Southern states were pictured recently at the annual convention banquet of the American Association of Textile Chemists and Colorists in Boston, Mass. *Left to right, top row:* E. Dean Walen, vice-president of Pacific Mills; Francis White, president of American Woolen Co.; Harold J. Walter, president of Bachmann Uxbridge Worsted Corp.; and W. A. Traver, chairman of the board of Franklin Process Co.

*Left to right, lower row:* Henry M. Blas, president of Pacific Mills; Abbot Stevens, vice-president of the M. T. Stevens & Sons Co. Division of J. P. Stevens & Co.; George E. Sinkinson, president of Sayles Finishing Plants, Inc.; and R. C. Dick, president and treasurer of Naumkeag Steam Cotton Co.



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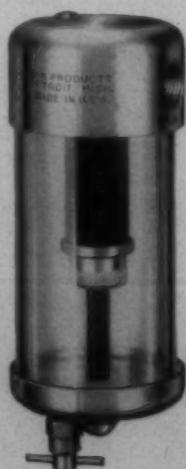
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Ordinary or old Style Leather Apron	reduction of .040 inch in Abrasion test	Singleton's Draft Horse treated Leather Apron	reduction of .010 inch in Abrasion test
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HAMNER SALES AGENCY, P. O. Box 267, Gastonia, N. C.

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## PERSONAL NEWS

for Mooresville Mills, succeeding J. C. Johnson, who resigned to devote his time to a private business enterprise. . . Charles E. Ware, Jr., for the past year superintendent of twisting and quilling, has been promoted and transferred to Mooresville's No. 4 Mill as assistant superintendent.

Sydney M. Cone, Sr., has been elevated to the presidency of Cone Finishing Co., Greensboro, N. C. Two new vice-presidents of Cone Finishing Co., which is a unit of Cone Mills Corp., are Marshal J. Gardner, manager of the print works plant at Greensboro, and Percy C. Gregory, Jr., manager

of Union Bleachery, Greenville, S. C., a Cone Mills Corp. division. . . Caesar Cone, treasurer of Cone Mills Corp., recently was elected to the board of directors of the Greensboro Chamber of Commerce.

Harold Risher of Excelsior Woolen Mills, Union, S. C., has been transferred to Excelsior's No. 4 Plant at Pendleton, S. C., as superintendent. . . C. E. Anderson, formerly with the Deering, Milliken Service Corp., who has been making his home at Union, has been named superintendent of the Union plant. Both are units of Deering, Milliken & Co.

Sgt. Ellison S. McKissick, Jr., a son of Ellison S. McKissick, Sr., president and

treasurer of Alice Mfg. Co., Easley, S. C., recently was wounded while fighting in Korea. Sgt. McKissick, a member of the Marine Corps, received multiple shrapnel wounds when he stepped on a land mine. He was evacuated to a Navy hospital ship. Sgt. McKissick's brother, Staff Sgt. Foster McKissick, also fighting with the Marine Corps in Korea, wrote his parents that Ellison "is going to be all right."

**John C. Roberts (left)** has been elected president of Textiles, Inc., Gastonia, N. C., succeeding A. G. Myers, Sr., president of the company for the past 21 years, who was elected chairman of the board. . . Other newly-elected officers

are Don Maddox and Percy H. Thompson, vice-presidents, and A. G. Myers, Jr., secretary and treasurer. All other officers, and the board of directors, were re-elected.

Charles H. Merriman, Jr., of Charlottesville, Va., has been promoted from vice-president to executive vice-president and treasurer of Crompton Highlands Mills, Inc., which operates plants at Waynesboro, Va., Griffin, Ga., and Morriston, Ark. . . Herbert A. Pickford of Griffin has been promoted to vice-president and general manager. Mr. Pickford joined the firm in 1929 at Waynesboro and was transferred to Griffin as manager in 1943. . . S. Y. Austin, Jr., of Waynesboro has been promoted from assistant vice-president to vice-president.

Edward F. Addis, formerly chairman of Susquehanna Mills, Inc., has been elected a vice-president of A. D. Juillard & Co., Inc., and will assume his new post Jan. 1. . . Kenneth B. Cook, president of the Rhode Island Textile Association, becomes vice-president in charge of manufacturing and sales for Susquehanna.

Dr. Cary R. Wagner, chairman of the executive committee of General Aniline & Film Corp., was elected president of the Synthetic Organic Chemical Manufacturers Association at the group's 31st annual meeting Dec. 3 in New York City. . . Other new S.O.C.M.A. officers are Paul K. Lawrence of E. I. du Pont de Nemours & Co., first vice-president; Carl E. Van Winckel of



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- Laurel Synthetic Detergents and Penetrants
- Laurel Supergel RS—all fibers
- Laurel Boil-off Compounds—rayon, nylon, mixtures
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Carwin Co., second vice-president; and Henry L. Young of Interchemical Corp., treasurer.



Ernest Welles, former group leader with Foster D. Snell, Inc., chemical consultants, has joined the laboratory of Dexter Chemical Corp., New York, as research chemist. Mr. Welles, who holds a bachelor of science and master's degree from City College of New York, is 28 years old and a lifelong resident of New York.

Werner Textile Consultants recently formed a three-man executive committee and a seven-man planning committee to provide more effective pooling and utilization of its engineering services. The executive committee consists of Herbert L. Werner and R. M. Ashner, senior partners, and J. Paul Mills, who heads the Southern operation. The three members of the executive committee will serve on the planning committee along with Dr. W. Floersheim, B. Yavitz and J. C. Werner. The seventh membership will be filled on a rotating basis from among the firm's senior engineers.

W. E. Prescott of Kendall Mills, Charlotte, N. C., retiring president of the Carolinas-Virginia Purchasing Agents Association, was named a national director at the recent annual meeting of the Carolinas-Virginia unit at Pinehurst, N. C. . . Among speakers heard at the meeting was J. T. Holt of Erwin Mills, Inc., Durham, N. C.

Ridgley G. Shepherd, Jr., has been appointed head of the research division of United States Testing Co., succeeding the late Dr. Gustavus J. Esselen. Mr. Shepherd will continue as head of the plastics division.

Andrew M. Law recently became associated with Calhoun & Co., investment securities firm of Spartanburg, S. C.

Ralph C. Persons has succeeded George W. Ullman as president of Sun Chemical Corp. Mr. Ullman becomes chairman of the board. Mr. Persons, who has been with Sun for about nine years, formerly was executive vice-president.

Hugh M. Comer, chairman of the board of Avondale Mills, Sylacauga, Ala.; George E. Glenn, Jr., president of Exposition Cotton Mills Co., Atlanta, Ga.; and Stark S. Dillard, chairman of Dillard Paper Co., Greensboro, N. C., recently were named new state directors of the National Association of Manufacturers to serve as members of the 1953 board.

Recent promotions in connection with a faculty reorganization at New Bedford (Mass.) Textile Institute follow: Prof. Francis Tripp, dean of the faculty; Augustus Silva, promoted to assistant professor in charge of English, also named dean of students; Associate Prof. James L. Giblin, promoted to full professor and head of textile department; Leo Sullivan, promoted to associate professor in charge of humanities;

Howard Tinkham, promoted to assistant professor and acting head of mechanical engineering; Lenine Consalves, elected instructor in engineering department.

Robert H. Lankford, formerly superintendent, has been made general superintendent of Chatham Mfg. Co., Elkin, N. C., succeeding the late Fred L. Neaves. . . Harry H. Barker, Jr., was named superintendent of all manufacturing operations through weaving and Henry R. Meinung was named superintendent of finishing.

Henry DeWald has become associated with Stonecutter Mills Corp., Spindale, N. C., as manager of the technical division and

quality control. Prior to joining Stonecutter, Mr. DeWald was associated with Cheney Bros., Manchester, Conn., and Deering, Miliken & Co., Inc.

Brown Mahon of Greenville, S. C., a vice-president of J. P. Stevens & Co., Inc., served as chairman of the textile division of the 1952 Christmas seal sale in Greenville.

R. E. Henry of Greenville, S. C., who retired some time ago as vice-president of J. P. Stevens & Co., Inc., has been named chairman of the board of the South Carolina State Chamber of Commerce after having served during the past year as president of the group. Among other new officers of the



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## PERSONAL NEWS

state civic group are A. D. Asbury of Greenville, a partner in J. E. Sirrine Co., vice-president from the western section; Charles W. Coker of Hartsville, vice-president of Sonoco Products Co., vice-president of the central section; C. H. Campbell of Hartsville, vice-president and sales manager of Sonoco Products Co., a county director; and James A. Chapman, president and treasurer of Riverdale Mills at Enoree and of Inman Mills, county director.

Sanford L. Cluett, vice-president of Cluett, Peabody & Co., was honored recently by the American Society of Mechanical Engineers when he was presented the society's Holly medal which is "bestowed for some great and unique act of genius of engineering nature that has accomplished a great and timely public benefit."

E. L. Rankin, Jr., a member of the public relations department of Burlington Mills Corp., Greensboro, will be the private secretary to the new governor of North Carolina, Governor-Elect William B. Umstead announced recently.

Forrest C. Ames has resigned as sales manager of Riggs & Lombard, Inc., Lowell, Mass., after nine years with the firm. Mr. Ames has not announced his future plans.

Thomas D. Russell, president of Russell Mfg. Co., Alexander City, Ala., has been elected president of the Alabama State Chamber of Commerce. Mr. Russell's

father, Benjamin Russell, was one of the founders and the organization's first president. . . . J. A. Thompson, executive vice-president of Alabama Textile Products Corp., was elected a director of the civic group.

Mary Ruth Lake recently joined the sales service laboratory staff of Wica Co., Inc., Charlotte, N. C. Miss Lake formerly was head librarian of the Liggett & Myers research department in Durham, N. C.

John D. Siewers and Walter A. Blackwood have been elected vice-presidents of Washington Mills Co., Winston-Salem, N. C. C. H. Reid, vice-president and secretary, was elected to the board and S. H. Bason, formerly assistant treasurer, was elected treasurer. Mr. Siewers, formerly general manager of the company's Fries, Va., plant, has been with Washington Mills since 1935. Mr. Blackwood, who joined the firm in 1934, was formerly production manager. Mr. Reid has been with the firm since 1903 and became secretary in 1922. In 1952 he added the title of vice-president.

Dr. Stephen J. Kennedy of the Office of the Quartermaster General has been nominated for honorary membership in the American Association of Textile Technologists. A.A.T.T. limits honorary membership to one in a calendar year. From 1927 to 1941 Dr. Kennedy was with Pacific Mills as assistant sales manager, head of the merchandising department and director of market research.

Walter H. Seddon of Queens Village,

N. Y., recently was cited by the Armed Services Textile and Apparel Procurement Agency for his outstanding performance of service in expediting the production of cotton duck, an item urgently needed for defense. He was awarded a superior accomplishment pay increase.

Donald B. Derby has been elected president of United States Finishing Co., a post he has held unofficially since reorganization of the firm's management last June. Mr. Derby has been chairman of the board since 1947.

Harry McKown has been named assistant to the superintendent of the Startex (S. C.) Division of Spartan Mills, succeeding Jack Joyce, who resigned to enter the insurance business. Mr. McKown has been affiliated with Startex for six years and prior to his recent promotion was with the planning department of the mill.

Rufus W. Freese has been appointed manager of the new warehouse and laboratory of American Aniline Products, Inc., at Columbus, Ga. A former sales representative for the company, Mr. Freese has been with American Aniline since 1941.

Appointment of John J. Newton as superintendent of Dan River Mills' No. 3 Division at Schoolfield and of Edward R. Hopkins as section superintendent of rayon, dyeing and finishing operations at the Riverside Division was announced recently by Dan River Mills, Inc. In his new post Mr. Newton will be in charge of all dyeing and finishing operations at the Schoolfield plant. He recently joined the Dan River organization from A. D. Juilliard & Co., Inc., Utica, N. Y. before joining Juilliard he was associated with the Martin Dyeing & Finishing Co. of Bridgeton, N. J., and the Fairforest Finishing Co. in Spartanburg, S. C. He replaces J. J. Carrick, who recently resigned. Mr. Hopkins was formerly technical superintendent of finishing at the pilot mill in the company's research and development division. He joined Dan River in February, 1951. . . . M. A. Cross, director of industrial relations for Dan River Mills, has been re-elected first vice-president of the Danville, Va., Community Chest. Basil C. Browder, Dan River's executive vice-president, has been named a director of the Danville Community Chest.

## OBITUARIES

B. A. Andrews, 52, who was associated with the research laboratory of Kendall Mills, Charlotte, N. C., died Dec. 3. Prior to joining Kendall, Mr. Andrews was connected with Hunt Machine Works and Woodside Mills. Surviving are his wife, four sons and a stepdaughter.

George Brownlee, retired secretary of Woodside Mills, Greenville, S. C., died Dec. 9. Mr. Brownlee retired in 1949 after having been with Woodside Mills since 1907. Surviving are his wife, two sons, two stepdaughters and a stepson.

Ralph E. Burnham, 61, a member of the Westinghouse lamp division since 1943, died recently at his home in Passaic, N. J.

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**GYANT-DAVIS ELECTRIC CO.**  
Greenville, S. C.



From 1917 until he joined Westinghouse, Mr. Burnham was associated with Textile Finishing Machinery Co. of Providence, R. I. Surviving are his wife, one son, a brother and a sister.

**W. R. Ennis**, 74, formerly a textile operating executive in the Charlotte, N. C., area, died recently at his home in Charlotte. At the time of his death Mr. Ennis was a representative of Magnus Chemical Co., Garwood, N. J. His wife and a brother survive.

**Joseph Fossel**, 83, inventor of textile machinery and a consulting engineer, died recently at a hospital in Worcester, Mass. During his long career in the textile industry Mr. Fossel was associated with Dodson & Barlow, a British concern; Saco-Lowell Shops; and Atkinson & Haserick for 40 years. A daughter survives.

**Lonnie W. Green**, 69, superintendent of Highland Park Mfg. Co., Charlotte, N. C., died Nov. 23. He had been associated with Highland Park since 1937. Surviving are his wife, two daughters, two sons, and two sisters.

**Charles F. Greene**, president of Materials Handling Equipment Co., Inc., Atlanta, Ga., died Dec. 2. His wife, two daughters and a brother survive.

**James F. Hallinan**, 57, executive vice-president of Commercial Factors Corp., New York, died Nov. 25. Surviving are his wife, a son and three sisters.

**Aaron C. Horn**, 76, chairman of the executive committee and a director of Sun Chemical Corp., died recently. Mr. Horn assumed his executive position with Sun after the A. C. Horn Co., of which he was president, merged with Sun Chemical in 1945. He was a 33rd degree Mason. Surviving are his wife, a daughter and a son, four brothers and two sisters.

**E. D. Johnston**, 63, general superintendent of Peerless Woolen Mills, Rossville, Ga., died Dec. 9. A veteran of 45 years in the industry, Mr. Johnston was with American Woolen Co. at Webster, Mass., before joining Peerless.

**Edward M. Mathewes**, 84, who retired about three years ago as assistant secretary-treasurer of Spartan Mills, Spartanburg, S. C., died suddenly Dec. 5 at his home in Spartanburg. Survivors include his wife, a daughter, a son, two brothers and a sister.

**Samuel A. Mauney**, 78, president of Kings Mountain (N. C.) Mfg. Co., died Nov. 23 after a lengthy illness. Mr. Mauney served for many years as secretary and treasurer of the company and since 1941 as president. Surviving are his wife, two sons, four daughters, three brothers and a sister.

**Harold E. McNab**, 45, an official of Mac Chemical Co., Knoxville, Tenn., died suddenly Nov. 21 of a heart attack. Mr. McNab is survived by his wife, a son and a daughter, two brothers and a sister.

**John McD. Moore, Sr.**, 74, president

of Dacotah Mills, Lexington, N. C., died recently after a long period of declining health. Mr. Moore was associated with mills at Hartsville and Laurens, S. C., before purchasing controlling interest in Dacotah Mills in 1937. His wife, two sons and a sister survive.

**Fred L. Neaves**, 49, general superintendent of Chatham Mfg. Co., Elkin, N. C., and a member of the board of directors, died suddenly Nov. 25 at his home in Elkin. Mr. Neaves had been associated with Chatham since 1929. Surviving are his wife, one son, a foster son, five brothers and four sisters.

**William Parker**, 65, manager of the Charlotte, N. C., district of Allis-Chalmers general machinery division since 1938, died Nov. 24 of a heart attack. Mr. Parker had been associated with Allis-Chalmers since 1913. Surviving are his wife, a son and a daughter, a brother and a sister.

**Matthew G. Thomas**, 68, retired textile manufacturer of Knoxville, Tenn., died recently of a heart attack. One of the original founders of Appalachian Mills in 1910, Mr. Thomas was president of Cherokee Spinning Co. before his retirement. Survivors include his wife and two daughters.

**Crawford G. Timberlake**, vice-president of Hartsville (S. C.) Print & Dye Works, died recently. Mr. Timberlake also was vice-president of the Bank of Hartsville and a director in numerous other corporations.

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# MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

**ANDERSON, S. C.**—Haynsworth Mill has announced plans for construction of a \$300,000, 27,000 square foot plant addition. Daniel Construction Co. will erect the addition, with completion expected in March or April. With the new addition, total floor space will be 150,000 square feet. This marks the third enlargement of the plant since 1948. Haynsworth is a subsidiary of Woodside Mills.

**DANVILLE, VA.**—Dan River Mills, Inc., is in the process of liquidating eight warehouses of used textile manufacturing machinery and equipment. The sale is being conducted by Watson & Desmond of Charlotte, N. C. Included in the lot are about 1,000 looms, mostly Draper 40-inch Models E and K; 100 deliveries of Saco-Lowell controlled-draft drawing; dyeing and finishing equipment; 9x4½ roving frames; package dyeing machinery; and Barber-Colman tying-in machines. Also included is a substantial quantity of new parts, mostly for Whitin, Saco-Lowell and Draper machines.

**CLINTON, S. C.**—A contract for construction of a multi-million dollar addition to Clinton Cotton Mills has been awarded Fiske-Carter Construction Co. of Spartanburg. Construction is getting underway with

the job scheduled tentatively to be completed during late Summer or early Autumn of 1953. The addition is to the No. 2 Mill and will add approximately 100,000 square feet to the plant's manufacturing space and 20,000 square feet to be used for cloth storage and shipping. This new addition is to be 350 by 288 feet and of brick, steel and concrete construction. It will be windowless, and completely air conditioned, with continuous rows of fluorescent lighting. Inside walls will be of glazed tile in colors. When completed the expansion will enable the mill to consolidate all its present machinery in one building, freeing the No. 1 plant for the manufacture of fabrics more suitable to that type structure. Four hundred looms have recently been purchased and will soon begin arriving at the mill and other machinery will be acquired as work progresses, it was announced.

**LOWLAND, TENN.**—American Enka Corp. will expand its facilities for the production of viscose textile yarn at its Lowland plant, according to announcement made Dec. 10 by J. E. Bassill, president. Work will commence at once and is expected to be completed by the end of 1953. The program is expected to cost approximately \$4,000,000. New facilities to be provided will be pri-

marily for the purpose of increasing viscose capacity and will involve expanded chemical facilities, some new buildings and power facilities. Mr. Bassill stated that the expansion, when completed, will provide work for approximately 150 new employees.

**BUENA VISTA, VA.**—Fire, believed to have been caused by defective wiring in the ceiling, destroyed the Buena Vista plant of Burlington Mills Corp. Nov. 30. The loss was estimated at \$250,000. The plant had not been in operation for the past six months.

**NEW BEDFORD, MASS.**—Management of Wamsutta Mills has abandoned the idea of building a modern plant in the South at this time, it was reported at the recent annual meeting of stockholders, but is looking to purchase a suitable established plant in the Southern states when a favorable opportunity arises.

**GASTONIA, N. C.**—A new picker room recently has been completed at Flint No. 2 plant of Burlington Mills Corp here. The new addition contains an entirely new double line of pickers replacing a single line formerly in use.

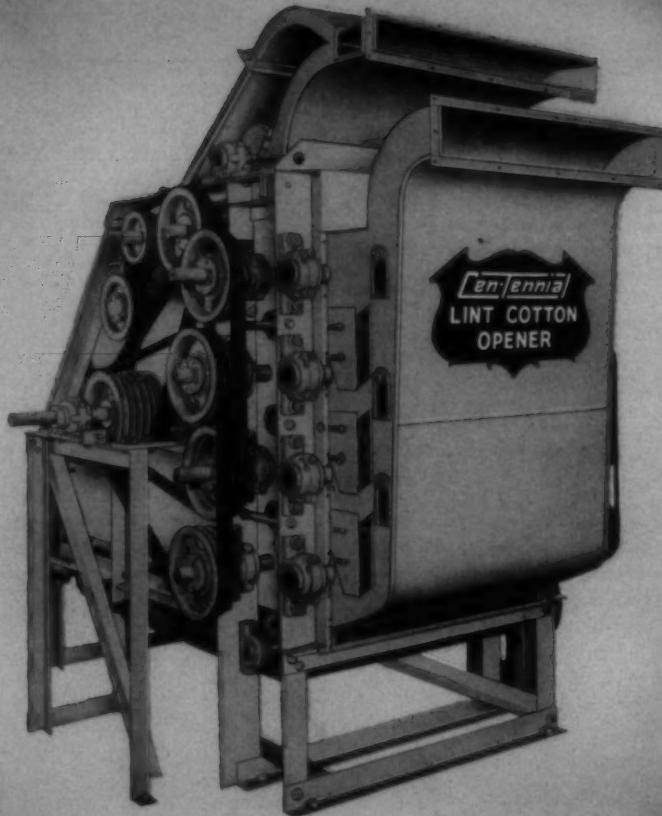
**ANDERSON, S. C.**—The new wing to the Southside Plant of Textron Southern, Inc., containing 50,000 square feet, is nearing completion. It will approximately double the space of the spun rayon operation. Textron also has expansion projects under way at Williamston and Belton, S. C.

**HOPEWELL, VA.**—Allied Chemical & Dye Corp. announces its entry into the rapidly growing field of man-made fibers through the construction of a plant for manufacture of a synthetic fiber of the polyamide (nylon) type. Allied's National Aniline Division will erect and operate the new facilities and market the product. A site of some 600 acres, in the "Bermuda Hundred" section of Chesterfield County at the confluence of the James and Appomattox Rivers immediately to the north of Hopewell, has been optioned. Fiber production is planned for this site. Raw materials processing will be conducted on a site already owned adjacent to the giant Hopewell plant of Allied's Nitrogen Division. The cost of the new facilities is estimated as being in excess of \$23,000,000 of which 40 per cent will qualify for accelerated amortization under Certificate of Necessity issued by Defense Production Authority July 21, 1952. The Certificate of Necessity was one of four granted on that date to increase domestic capacity for production of nylon-type synthetic fibers. Construction of Allied's new facilities is planned to start immediately and initial production is expected in about two years. Lockwood Greene Engineers, Inc., has been retained as engineer-architect and Daniel Construction Co. as general contractor. Process design will be provided by Allied's central engineering group. J. J. Rieck, located at National Aniline Division offices at 45 Rector Street, New York, will be in direct charge of the project.

**FROM HOISIERY TO AWNING FABRIC**—An attractive photo-montage showing plants and products of Glen Raven Mills has recently been introduced into the promotional effort of this North Carolina textile firm. The montage is shown above. Combining plant photographs with art work and type, the montage shows the various operations of Glen Raven Mills. The organization's new tricot plant occupies a prominent place in the center of the layout.

The type panel under the Glen Raven bird device at top center points out: "These mills produce a large variety of high quality textile products, including lovely Glen Raven hosiery, part of the smart look of our American women, Vivatone woven awning stripes, and many woven and knitted fabrics for the finest in lingerie, dresswear and suiting." Persons visiting the Glen Raven plants and the firm's sales offices at 265 Madison Avenue in New York City will see the montage on display. Reproduced in various sizes, the montage hangs in attractive frames on office walls.

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## EQUIPMENT - SUPPLIES - SERVICES - LITERATURE

### N. Y. & N. J. Bulletin

New York & New Jersey Lubricant Co. has issued a new bulletin (No. 547) on "Lubrication of Draper-Diehl Power Transmitter Assembly" on Draper looms. This technical data, accompanied by a cut-away illustration of the assembly, has been released upon the completion of mill tests which demonstrated conclusively that Non-Fluid Oil provides much more positive, cleanly and economical lubrication than ordinary greases. Recommendations have been made as to the most efficient method of lubricating Draper-Diehl power transmitter assembly. This bulletin may be obtained by requesting it on the "want" coupon in this section. (M-1)

### Syton Booklet

A 20-page, illustrated booklet on the advantages of Syton, a chemical spinning aid for synthetic and natural fibers, has been prepared by Monsanto Chemical Co. A majority of major mills are reported in the booklet to have proved the value of Syton

for spinning wool yarns. In addition, the booklet includes several case histories of mill results with the product on the worsted systems. "With the use of synthetic fibers increasing," the booklet points out, "mills that formerly had little trouble spinning fine grades of straight wool to counts well below the limit spin are now finding that Syton's control of fiber slippage is a great help in spinning their hard-to-control wool-synthetic blends." Syton is described as a whitish, translucent, water dispersion of an amorphous silica that "has just one effect on fibers—increased inter-fiber friction for reduced fiber slippage." The chemical has no abrasive action on fibers or equipment. Charts and photographs illustrate the properties of the chemical as well as its application and formulation. (M-2)

### Liquid Glaze Enamel

A new quick-drying enamel is now being distributed nationally to industrial users by Rex Industrial Paint Works. Known as Liquid Glaze heavy-duty enamel, the company reports that this product has been ac-

claimed in the New York area as incorporating the following advantages: easy brushing, excellent coverage and greater durability. The distributors claim that textile plants will find Liquid Glaze superior to other enamels due to the extreme inertness of this enamel to alkaline chemicals, water and steam. Liquid Glaze holds its gloss longer, it is stated, and thereby reduces maintenance costs. (M-3)

### G. E. Bulletin

A new bulletin on a magnetic yarn-tension brake for textile mills has been announced as available from the General Electric Co. The well-illustrated bulletin, designated GEA-5472, covers design features and performance advantages of the compact new G. E. brake which operates by magnetic drag and eliminates pinch friction and scuffing of delicate yarns. Included in the bulletin is a cutaway view of the brake and a chart showing its characteristic curves at several tension settings. (M-4)

### Transmission Systems

A new catalog now ready for distribution describes completely the pneumatic, magnetic, electric, electronic, and electronic-follower transmission systems for use in measurement and control of flow, pressure, liquid level, viscosity and specific gravity.

The catalog (T-50) is profusely illustrated containing performance characteristics and schematic diagrams of the various systems. (M-5)

### G. E. Motor Bulletins

Textile motors for looms, spinning frames, and twisters are described in three separate new bulletins announced as available from the General Electric Co. Designated as GEA-5858, a four-page bulletin on totally-enclosed ball-bearing loom motors points out electrical and construction features in addition to a bearing design which permits relubrication when necessary. Also included in the bulletin is a brief description of new G. E. lint-tight loom switches.

The new screenless open textile motor for spinning frames, roving frames, pickers and opening equipment is the subject of a well-illustrated four-page bulletin listed as GEA-5837. Features of lint-free operation, easy installation and maintenance, and dependable service are illustrated by using cutaway drawings and photographs of component parts of the motor. It also contains a brief description of the new G. E. lint-tight a.c. combination motor starter.

A two-page bulletin on vertical motors for twisters (GEA-5860) describes the features of a special vertical motor designed by General Electric to provide higher horse-

# The Textile Shops

### Acid Tanks

Ball Bearing Journal Assemblies for Slashers and Dry Cards

### Bleaching Tanks and Tubs

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Card Screen Lickerins for Cotton and Rayon

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Condenser Screens

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Cowl Ventilators

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Spinning

Spooling

Twisting

Drip Pans

Dye Kettles and Vats (New)

Dry Cans New and Repairs

Driers

Filters

Misc. Sheet Metal Work

### Picker Screens

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Rolls of All Types and Sizes

Size Kettles

Tanks

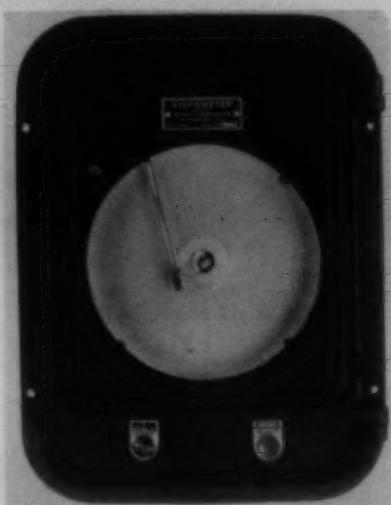
Waste Screens

Special Machines Custom Built

SPARTANBURG, SOUTH CAROLINA, U. S. A.

power in smaller frames to meet present-day high spindle speeds. This bulletin also contains the mailing addresses of all G. E. apparatus service shops and apparatus sales offices in the United States. (M-6)

#### Norcross Sizeometer



The Norcross Corp. has developed a new method for preparing warp sizing that combines the advantages of cooking and homogenizing size, and furthermore incorporates the use of a Viscometer (shown) so that each batch is finished to a fixed viscosity.

A pump is used to withdraw size from the lower end of the cooking kettle and discharge it into a mixer within the cooking kettle. The steam is also discharged in this mixer so that the size is agitated and actually cooked under pressure. The pressure build up in the mixer by the combined effect of the steam and the pump provides the advantages of pressure cooking and also extrudes the size from the mixer into the cooking kettle through orifices which further break down the size and globules. The combined effect of this equipment produces a very smooth, uniform size in approximately one-third the normal cooking time. Instructions are furnished so that the mixer can be easily constructed by the purchaser, or the firm will furnish that part of the equipment if preferred. The necessary components for this method of preparing size can be very readily added to any existing cooking kettle. The operating procedure is very simple, all of the ingredients are added to the kettle in the usual manner, and the start button on the Viscometer is pressed. The Viscometer then completely controls the entire process turning off the steam and stopping the pump when the size is finished to the correct viscosity. The Norcross Sizeometer is a package unit consisting of a measuring element, recorder-controller, pump, power-operated valves, and a dual thermostat.

The benefits claimed from this equipment are: (1) The size is prepared in approximately one-third the normal cooking time. (2) Automatically produces a smooth, uniform size controlled to the correct viscosity. (3) Viscosity of each batch is accurately recorded by a proven instrument. (4) The agitation under high pressure reduces large molecules to uniformly smaller molecules. Due to this reduction, the size does not

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(December, 1952)

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#### FOR THE TEXTILE INDUSTRY'S USE—

continue to break down in storage and in the size box like conventionally cooked size. (5) Thin boiling starches can be replaced with pearl starch in most cases when prepared by this method. (M-7)

#### Grommet V-Belt Bulletin

The Texrope grommet v-belt, for which 20 to 50 per cent longer life is claimed, is described in a new bulletin (20B6497A) released by Allis-Chalmers Mfg. Co. The Texrope grommet v-belt is the only belt made without a splice. According to the bulletin, it is cooler running, is shock absorbent, has one-tenth the shrinkage and one-third the stretch of other belts, offers less slip and more grip, and is 20 per cent stronger. Cross section illustrations show how the Texrope grommet v-belt provides a higher gripping pressure under all load conditions. (M-8)

#### Silicone Masonry Coating

The newest development of the A. C. Horn Co. research laboratories—Dehydratine No. 22—contains polysiloxane resins generally known as silicones which operate in the principle of negative capillarity. This term refers to a condition whereby a capillary tube, lined with a non-wettable material, offers strong resistance to the passage of water. When treated with Dehydratine

No. 22, pores of concrete, stucco and masonry become effectively water repellent. These silicone compounds when applied to a clean, dry continuous masonry surface above grade will penetrate more deeply than conventional surface treatments and will provide a higher degree of water repellence for a long period of time. Dehydratine No. 22 is applied by brush or spray after defective joints have been repaired and consolidated by solid repointing. It then repels water, minimizes efflorescence while allowing the masonry to "breathe." Since Dehydratine No. 22 is a clear water-repellent it will not discolor or change the appearance of masonry surfaces while preserving them. It is acid and alkali resistant. (M-9)

#### Industrial Cellophane Tape

The "highest quality and tightest-sticking Scotch brand transparent cellophane tape yet made" for industrial packaging and sealing has been announced by Minnesota Mining and Manufacturing Co. The tape's entirely new construction features a new more stable cellophane backing, a more aggressive adhesive, and a special (patented) surface treatment. The surface treatment alone—which provides easy unwind, and assurance against breakage and adhesive transfer—is regarded as "one of the greatest advances in basic tape technology." In addition, the new tape possesses "excellent" aging qualities and transparency. Also, it is wound on a special air-cushioned core that reduces telescoping, it was pointed out. The tape's more

aggressive adhesive is expected to make it an improved sealing medium for bags, packages, cans, tubes and cartons, as well as for splicing papers, films, foils and cloth. The new tape is being made available through wholesalers nationally in one-fourth to six-inch widths on 2,592-inch rolls, with other widths available on special order (M-10)

#### Semet-Solvay Petrochemicals

Semet-Solvay Division, Allied Chemical & Dye Corp., announces it is now producing on a small plant scale at Buffalo, N. Y., a new material derived from ethylene, called Alcowax. A full-scale petrochemical plant is under construction at the same location for the production of this material and will be in operation some time in 1953. It is reported that unlike most other polymers of this type the present grade of Alcowax has wax-like hardness and a melting point of approximately 100° C. It is further stated that the material has the properties of being hard, of white translucent color and is tasteless, non-toxic and substantially odorless. Also noted is its quality of having a melting point higher than that of the natural waxes, against a moderately low melt viscosity, so that it is readily dispersible in various types of waxes and other mediums at moderately low temperatures. A modification in development is classified as emulsifiable. (M-11)

#### Speed Reduction Drives

American Pulley Co. announces Shaft-King, a new series of 20:1 ratio speed-reduction units featuring important improvements in gears, bearings, housing, lubrication and oil sealing systems. The new units represent the most advanced design in shaft-mounted speed reducers since they were first introduced 12 years ago. Gearing in Shaft-King speed reducers consists of two trains of the single-helical type. Gears are precision-cut from alloy steel forgings and are flame-hardened. An exclusive feature of Shaft-King construction is the use of both ball bearings and tapered-roller bearings where each can be utilized most effectively. Longer bearing and gear life is made possible by the exclusive three-wall housing. Gearing and bearings are continuously splash-lubricated by the high-speed gear and the counter-shaft pinion which run in a large oil reservoir in the lower third of the Shaft-King housing. American Pulley's patented concentric shaft design places both input and output shaft above oil level, therefore bearing seals do not operate against a head of oil. An additional feature is a leak-proof, anti-friction oil-sealing system. Interchangeable patented split tapered bushings with locking nuts eliminate fretting-corrosion and make the units immediately adaptable to any shaft size up through 3½ inches. Shaft-King speed reducers are easily mounted directly on shaft of driven machine and require only standard shaft lengths (twice shaft diameter plus clearance) for mounting. As protection against shock, jam or built-up loads, Shaft-King speed reducers can be equipped with the American torque-arm overload release. Shaft-King speed reduction drives are illustrated and described in a new 20-page catalog available upon request. (M-12)

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# Serving The Textile Industry

## National Aniline Expanding

National Aniline Division of Allied Chemical & Dye Corp. is starting construction of a new plant for the production of maleic anhydride and fumaric acid on its recently-acquired plant site south of Moundsville, W. Va. The new plant which will substantially increase National's maleic anhydride capacity is located adjacent to National's new aniline plant now in the course of construction. F. J. Krueger, engineering manager, National Aniline Division, will direct the new Moundsville project for which the Defense Production Administration has awarded a Certificate of Necessity covering 50 per cent of the cost of the facilities estimated at \$4,500,000. Completion is scheduled for late 1953 or early 1954.

Maleic anhydride was first manufactured as a commercial organic chemical by National Aniline in 1933 by the catalytic oxidation of benzene, a process previously discovered by chemists of Allied Chemical & Dye Corp. Its unique chemical structure makes it of interest for use in the manufacture of high polymeric products of both the condensation and addition type. Accordingly, it is widely used in the preparation of

synthetic resins, which are important ingredients for coating compositions, adhesives, and also in the preparation of synthetic plastics for molded laminated articles. Additionally it is of value for upgrading of drying and semi-drying oils and as a raw material for the preparation of such diverse end products as wetting agents, textile finishes, fungicides and insecticides. Fumaric acid serves many of the same uses and is also valuable as a food acidulant and baking powder ingredient.

## Wellington Sears Renovation

Willfred W. Lufkin, Jr., president of Wellington Sears Co., recently announced plans for complete modernization and air conditioning of the company's New York headquarters at 65 Worth Street, beginning in early 1953. The extensive alteration program is being supervised by the firm of Beeston-Stott-Patterson Designers, 587 Fifth Avenue, New York City.

## Service To Designers

To offer an unprecedented service to designers in the textile industry, according to W. Allen Traver, chairman of the board, is

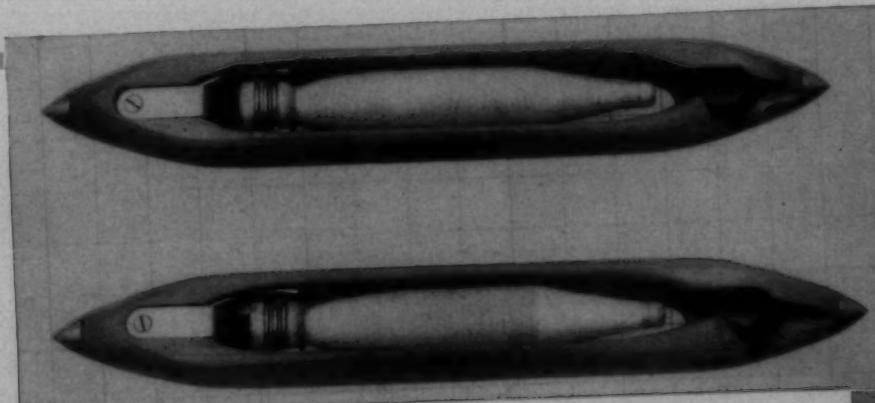
the object of a unique series of Franklin Process Co. advertisements scheduled to appear in textile trade papers during 1953. Mr. Traver states: "Textile designing is a universal art, and one of the oldest known to man. In examining the collection of yarn-dyed fabric samples in the Museum of Art at R. I. School of Design in Providence, we were struck with the idea: Why not reproduce some of the fine designs of the past, to show that the possibilities for creative patterning are literally unlimited?"

Review of fine designs created in the past, it is believed, should be a refreshing and welcome stimulus to modern designers. Of thousands of fabric samples in the R. I. design school museum, Franklin Process narrowed the choice to six specimens representing varied historical periods and geographical origins. Included are: 6th Century tapestry weave loomed by an unknown Copt, a Christianized descendant of the pyramid-builders of ancient Egypt; a 12th Century Islamic fragment, with motif of conventionalized Arabic script, also woven in Egypt; a 14th Century narrow fabric from Peru, loomed during the late Chimú period, representing a school of "sophisticated primitivism;" an Italian fabric of the same century, when Europe was just waking

## New SHUTTLES FOR DRAPER LOOMS

Major shuttle improvements have long come from Watson-Williams. This time the Shuttle People have introduced two leaders in their field — **shuttles for Draper Looms, fitted with Cast Iron Eyes, to accommodate a longer filling package.**

One of them is 15 $\frac{1}{4}$ " long, the other a standard 15 $\frac{3}{4}$ " long. Both are equipped



with 8" bobbins. The 15 $\frac{1}{4}$ " length shuttle is designed to use a short eye to give longer bobbin length. A short eye can also be incorporated in shuttles of other lengths for Standard Draper Looms, and for C and K cotton looms to provide a maximum length bobbin.

**WATSON-WILLIAMS**  
**Mfg. Co.**

MILLBURY, MASSACHUSETTS

**SOUTHERN REPRESENTATIVES:**  
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Arthur J. Baham, P. O. Drawer 779, Greenville, S. C.  
John Wyatt, P. O. Box 701, Greensboro, N. C.

**NORTHERN REPRESENTATIVE:**  
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.  
**WESTERN REPRESENTATIVE:**  
Francis B. Wells, 805 Linwood Avenue, La Porte, Indiana

## SERVING THE TEXTILE INDUSTRY—

up to the Renaissance of originality in all the arts of living; a 16th Century silk brocade from Spain, emblazoned with royal lions; and a richly imaginative 17th Century Chinese design.

In the hope that these exhibits may suggest novel ideas for modern textile designs, Franklin Process underwrote a costly program of color photography to reproduce the originals with the greatest possible accuracy. Technical advice was provided by Dr. Rudolf Berliner, curator of decorative arts at the R. I. School of Design museum, and Graham Keith, assistant curator.

"Few in the textile industry," Mr. Traver points out, "realize what infinitely rich resources of ideas lie ready to hand in such treasure houses as the museum." A major function of the school's department of decorative arts, for instance, is to familiarize students with good design through first-hand study of fine pieces of work from the earliest periods of history to the present day. Their attention is directed to the influence of the intended use of materials on design and techniques of production. This intimate contact with original sources enables students to evolve new creative designs from old motifs—and the same facilities for stimulating creative thought are open to commercial designers already employed in the textile industry.

The Franklin Process project is an instance of a company's taking advantage of services freely offered by the decorative arts

department of the Providence institution. Dr. Berliner is quoted to the effect that such a department serves three publics: "The general public, among whom it attempts to stir up interest in the decorative arts, by showing the best ever produced—thereby raising standards of public taste, which results in demands on industry for better workmanship and better design; the manufacturer and distributor, who gain broader perspective by learning about the quality of work done elsewhere; and the designer and craftsman, who can be inspired to produce better quality in their own work, to answer the demands of the general public."

The textile collection from which Franklin Process made selections for authentic full-color reproduction in the present series covers the work of craftsmen from about 300 A.D. to the present. Through purchase and gifts, it is particularly strong in fabrics woven during the 17th, 18th, late 19th and 20th Centuries. Most important part of the collection is the Jacob Ziskind donation of some 500,000 to a million woven and printed designs which came from the Arnold Print Works of North Adams, Mass. Including both French and American samples, it constitutes—even though not yet fully classified and annotated—an exhibit of textile designs such as can be found on public view nowhere else in the world. The Ziskind collection, together with the recently-acquired Alphonse Haus collection of 19th and 20th Century French and American woven silks, makes the R. I. School of

Design art museum a peerless source for reference by modern designers.

Decision by Franklin Process to confine the present series of reproductions to choices from earlier periods, Mr. Traver states, stemmed from the desire to show the versatility of designers of the past in creating ingeniously attractive fabrics with colored yarns. A full-color reprint of each Franklin Process reproduction of fabrics in the museum of arts, R. I. School of Design, may be obtained on request.

## General Dye, Chattanooga

General Dyestuff Corp. is planning to build a new sales branch and laboratory at Chattanooga, Tenn., according to S. H. Williams, vice-president and general sales manager of the company, which has headquarters in New York City. H. A. Webb, who has been on the sales staff of the General Dyestuff branch at Charlotte, N. C., many years, has been placed in charge of all the company's operations at the new branch. A 100x180-foot plot recently was acquired on Rossville Avenue and construction of a one-story building to house the branch sales office, laboratory and warehouse will get under way shortly, Mr. Williams said. The building, which will be completed by July or August, 1953, will be constructed of concrete block and brick veneer with a steel truss roof and will be fireproof throughout. William Crutchfield is architect. Mr. Williams said that the new branch would make possible considerable expansion of its laboratory and shipping services in order to meet the increasing demands of the expanding textile industry in the South. The warehouse area will extend over 15,000 square feet.

## Link-Belt Colmar Plant

Manufacture of custom-designed conveying and processing machinery has been put on a straight-line production basis in the new 300,000 square-foot plant, designed and built for Link-Belt Co. by the Austin Co. at Colmar, Pa., 25 miles north of Philadelphia. The Colmar plant is Link-Belt's 17th. A large group of engineers, industrialists and civic leaders inspected the new plant Dec. 1.

Robert C. Becherer, president of the company, headed the group of Link-Belt directors and officers who welcomed the guests in the huge engineering department, which occupies the entire upper floor of two-story brick office building. Inside the plant, the group saw production under way on elements for a Venezuelan iron ore handling system that will unload, crush, screen and store the ore at the rate of 6,000 long tons per hour—100 tons per minute. The Colmar plant is of modern design, with large, uncrowded work areas. It combines straight-line production with utmost flexibility. Changes in layout can be made to suit a wide variety of products. The plant is 880 feet long, 300 feet wide, with a two-story office building.

Craneways in four of five 60 feet production bays, with 32 feet clearances below trusses, extend under still higher transverse craneways in the receiving and shipping cross bays at either end.

## EXCEL Keeps Your Production Rolling 24 TRUCKS For The Textile Industry



The Excel  
No. 1000 Fibre Truck

Also:  
No. 100 Loose Doff Box  
No. 200 Doff Box Frames  
No. 300 Doff Truck  
No. 400 Slatted Yarn Truck  
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No. 600 Slatted Conditioning Truck  
No. 700 Waste Can Truck

No. 800 Platform Truck  
No. 900 Metal Conditioning Truck  
No. 1100 Steel Lap Truck  
No. 1200 Utility Fibre Truck  
No. 1300 Utility Metal Truck  
No. 1400 Comber Lap Truck  
No. 1500 Pin Board Truck  
No. 1600 Bale Opening Truck

No. 1700 Cone Truck  
No. 1800 Beam Truck  
No. 1900 Silver Can Truck  
No. 2000 Swing Bed Doff Truck  
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Mr. Paul Eurey . . . . . Lincolnton, N. C. Fall River Mill Supply Co. Fall River, Mass.

## EXCEL TEXTILE SUPPLY CO.

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LINCOLNTON

NORTH CAROLINA

## Rayon Shipments For November Listed

Rayon and acetate yarn and staple shipments in November totaled 101,100,000 pounds, an amount slightly more than shipments in the previous month but 19 per cent greater than those in November, 1951, according to the *Textile Organon*, statistical bulletin of the Textile Economics Bureau, Inc. The rayon and acetate producing industry has now chalked up shipments in excess of 100,000,000 pounds for six consecutive months. Calculated production in November was slightly less than shipments, and industry stock at the end of the month was cut to 75,000,000 pounds.

Compared to October, shipments of rayon regular tenacity yarn were down 100,000 pounds in November while acetate yarn shipments were down 600,000 pounds. November shipments of viscose high tenacity yarn were down 1,100,000 pounds. These losses were more than offset by a 400,000-pound gain in rayon staple+tow and a 2,000,000-pound increase in acetate staple+tow shipments.

Comparison of shipments with November, 1951, reveals that shipments of rayon regular tenacity yarn increased 35 per cent, acetate yarn 62 per cent and viscose high tenacity yarn 11 per cent. Rayon staple+tow shipments were up only one per cent, however, while acetate staple+tow declined by eight per cent.

The *Organon* survey of industry capacity for man-made fibers as of November, 1952, reveals that there is a current output potential of 1,838,000,000 pounds on an annual basis of 52 weeks. By July, 1953, the industry's capacity is expected to increase to a total of 2,056,000,000 pounds and by March, 1954, to 2,160,000,000 pounds. As of October, 1954, the capacity figure is estimated at 2,273,000,000 pounds, an increase of 24 per cent over the current figure.

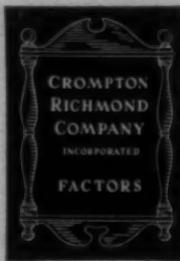
The *Organon* explains that its capacity data include figures for rayon (cuprammonium and viscose), acetate and the non-cellulosic fibers and for all types of primary products such as filament yarn, monofilaments, staple, tow, horsehair, and straw. Rayon waste data are not included. The publication emphasizes that its capacity survey is in no sense to be regarded as a forecast of actual production.

Comparison of the results of the current capacity survey with a special study made in March of 1952 reveals some changes in the annual potential rate of fiber output. In March, viscose high tenacity capacity for the third quarter of 1952 was estimated at 433,000,000 pounds. Actual July-September production was at an annual rate of 424,000,000 pounds and it is deemed, therefore, that the Spring capacity projection was reasonable. The new November, 1952, capacity for this product is now placed at 457,000,000 pounds, due to installation of new machinery. By the middle of 1953, high tenacity yarn potential is expected to total 500,000,000 pounds and by the Fall of 1954 will rise an additional 10,000,000 pounds.

Last Spring, capacity of viscose+cupra regular and intermediate tenacity yarn was projected to 282,000,000 pounds in the third quarter of 1952, a decline compared to the previous year. This capacity estimate was borne out by the current present capacity of 284,000,000 pounds. This capacity will continue to decline to a total of 278,000,000 pounds by July, 1953, but thereafter is expected to rise to 286,000,000 pounds in the Spring of 1954.

All of the anticipated capacity for rayon staple+tow shown in the Spring survey has not been realized, according to the *Organon*, although the directional trend was forecast correctly as evidenced by the current November figure of 230,000,000 pounds against a prediction of 235,000,000

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Crompton Factoring turns receivables promptly into cash for the needs of current operation. This continuous supply of liquid capital is both self-replenishing and self-liquidating. Your obligation is geared to actual sales.

This service enables present capital to do a lot more work. You can do more business. Our service pays its own way . . . and then some!

The business factored by Crompton has what it takes for better performance. Profit production alone can build up your equity.

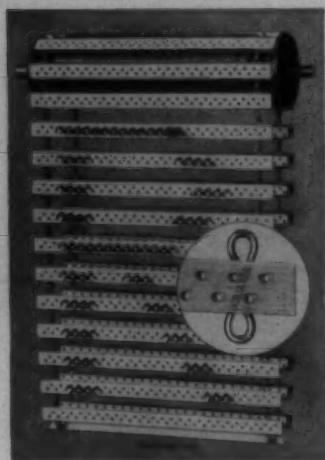
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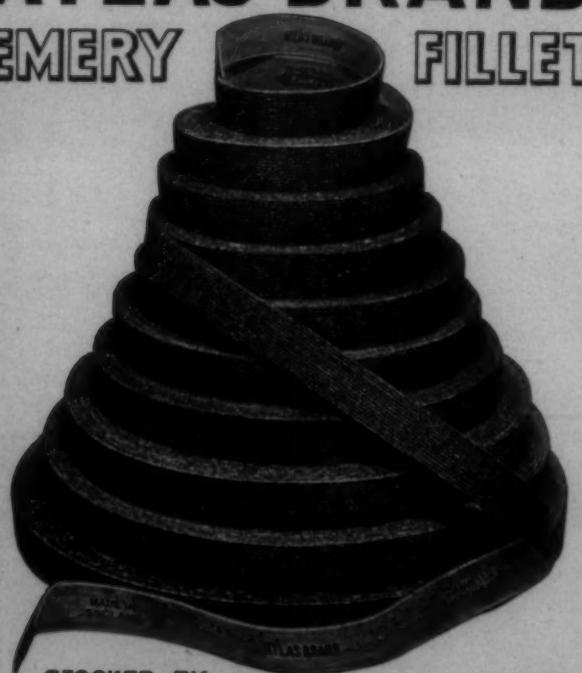
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## DRONSFIELD'S PATENT ATLAS BRAND EMERY FILLET



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pounds. By next July capacity for this product is expected to increase by nearly 100,000,000 pounds. The steel strike, it is learned, slowed up installation of several of the staple producing facilities. By the Spring of 1954, the capacity of this branch of the industry is expected to rise to 360,000,000 pounds.

Compared to the forecast of a year ago, acetate yarn capacity, which had been expected to rise to 394,000,000 pounds by July of 1952 fell short of this figure and the November, 1952, capacity is given at 390,000,000 pounds. It is expected to increase to 398,000,000 pounds by July 1953, with no further increases projected at this time. Capacity forecasts were not realized for acetate staple+tow, which had been expected to reach 172,000,000 pounds by July, 1952, and the current capacity is revised to 158,000,000 pounds with an expected increase to 171,000,000 pounds by July, 1953.

In the non-cellulosic fiber field, the total current capacity, according to the *Organon*, is estimated at 319,000,000 pounds, annual basis, and this is expected to increase to 385,000,000 pounds in July, 1953, 437,000,000 pounds in March, 1954, and 548,000,000 pounds in October, 1954. (Non-cellulosic fibers include nylon, Orlon, Dacron, dynel, Acrilan, Vicara, saran, glass fiber, etc.)

The October, 1954, estimate represents an increase of 72 per cent over the current rated capacity. By type of product, however, the changes are quite different, with the capacity of filament yarn+monofilments increasing from 238,000,000 pounds currently to 340,000,000 pounds in October, 1954, or by 43 per cent. Over the period, however, staple+tow capacity will increase from 81,000,000 pounds to 208,000,000 pounds, a figure 2½ times as large as the current capacity.

On the subject of high tenacity viscose yarn, the *Organon* points out that it is often erroneously assumed that all this yarn is sold for ultimate use in the manufacture of tires. There are, however, many other growing markets for this product. An analysis of shipments of high tenacity yarn in the first nine months of 1952 reveal that the hose and belting trade received 9,685,000 pounds. The broad woven goods trade, exclusive of tires, received 955,000 pounds, narrow woven goods 70,000 pounds, and all other uses 1,150,000 pounds. Exports of high tenacity yarn in this period amounted to 2,080,000 pounds. With the 290,630,000 pounds shipped for tire manufacturing, total shipments of high tenacity yarn amounted to 304,570,000 pounds.

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These data, according to the *Organon*, include not only first quality yarn, but off-quality yarn as well. The latter grades are sold where the strength or uniformity required for tires is not important. The figure for hose and belting includes related non-tire rubber products such as fuel cell fabric. In the broad woven category, the high tenacity yarn is sold for carpet backing, upholsteries, draperies, duck, etc. Narrow woven goods are understood to include tapes and webbing, venetian blind tapes, ribbons, labels, etc. All other uses include braids, lace goods, wire covering, shoe laces, clotheslines, rope and other cordage, sewing thread, tow target canopy lines, reinforced gum paper tape, non-woven and bonded fabrics, flock, Christmas tree decorations, mechanical packing, and many other uses.

The *Organon* states that it is to be presumed that the main export item is yarn for tire manufacturing. In addition to these exports of high tenacity yarn there are exports of tire cord and fabric which amounted to 16,950,000 pounds in 1951 and 7,966,000 pounds in the first nine months of 1952.

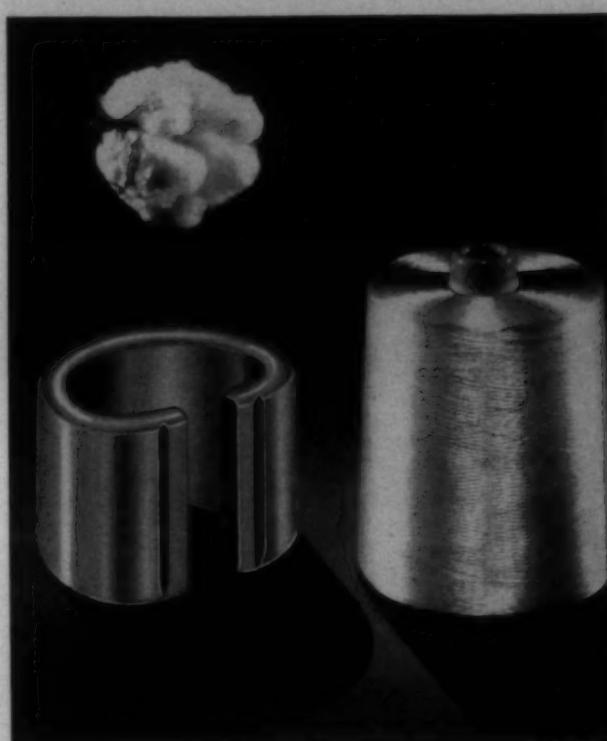
Analyzing the world wool situation, the *Organon* points out that the average production in the period between 1936 and 1952 has been approximately 3,950,000,000 pounds per year. Deviations from this "arithmetic" average are surprisingly small over the 18-season period, ranging from a minus 350,000,000 figure in 1935-1936 to a plus 250,000,000-pound figure in 1941-1942. The current season shows an output of 4,170,000,000 pounds.

It is notable, according to the *Organon*, that Australian production has held close to 1,100,000,000 pounds, grease basis, for the last four seasons. The 1952-1953 figure of 1,160,000,000 pounds represents the largest Australian output since the record 1943-1944 season. New Zealand's output has gone up slightly in the last three seasons. In Argentina, production has stayed about the same for the last five seasons and the country continues to hold second place as a world producer with New Zealand close behind.

The United States hit its peak in wool production with 455,000,000 pounds in 1942-1943 and dropped off each year thereafter to a low of 248,000,000 pounds in 1950-1951. There has been a slight recovery in the two succeeding seasons, but wool production is still far below the 1935-1939 average of 425,000,000 pounds. The wool clip of the Union of South Africa has risen slightly since 1949-1950.

The comparison of wool production with that of other fibers is of interest, according to the *Organon*. World production of cotton, averaging 22,800,000 bales in the 1934-

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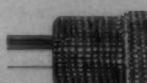
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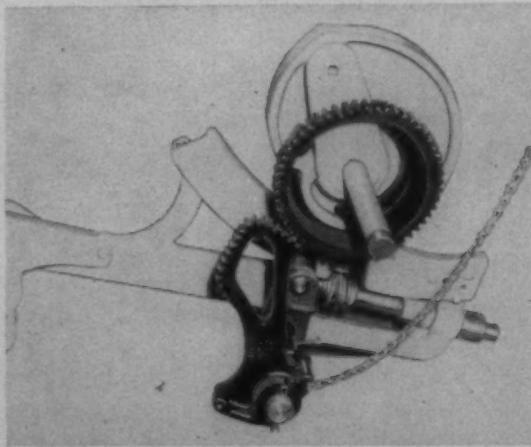
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1938 seasons increased 44 per cent to 32,900,000 bales in 1951-1952. The same calculation for wool shows a world increase of only 13 per cent. Global production of the man-made fibers averaged 1,540,000,000 pounds in 1935-1938 and increased to 4,220,000,000 pounds in 1951, an increase of 175 per cent.

## Cotton Research Clinic Slated Feb. 18-20

The fourth annual Cotton Research Clinic, sponsored by the National Cotton Council's utilization research division, will be held Feb. 18, 19 and 20 at the General Oglethorpe Hotel in Savannah, Ga. Dr. Leonard Smith, director of utilization research for the council, said two sessions of the three-day meeting will be devoted to a discussion of new developments in the initial processing of cotton, which includes the opening and cleaning of baled cotton. W. A. Hunter, research director of T.M.M., Ltd., of Helmshore, England, will describe a new system for opening and blending cotton. Other speakers will include R. M. Jones, vice-president in charge of research of Saco-Lowell Shops, A. L. Vandergriff of the Lummus Cotton Gin Co., and Ralph M. Rusca of the Southern Regional Research Laboratory.

Fiber and yarn strength will be discussed at another session, Dr. Smith announced, and new instruments for measuring the strength and elongation of cotton fibers will be demonstrated. "Within the last year important new evidence has been obtained showing the relationship between fiber extensibility and such properties as wear resistance and tearing strength," Dr. Smith said. "Cotton mills may derive from these studies a new tool which will allow them to improve their selection of cotton types for particular products." A complete program for the meeting will be announced later.

## Piedmont A.A.T.C.C. Unit Meets Jan. 10

The Piedmont Section of the American Association of Textile Chemists & Colorists will hold its first 1953 technical meeting on Jan. 10 at the Clemson House, Clemson, S. C. C. O. Stevenson of the Ciba Co. is in charge of arrangements for the meeting.

The program for the meeting follows: 10:30 a.m., research meeting, textile school auditorium, with Neal A. Truslow, chairman of research committee, presiding; 1 p.m., officers' luncheon; 3:30 p.m., technical session, Saber Room, Clemson House, the speaker, J. V. Boone of Geigy Co., Inc., "Organic Sequestering Agents in Wet Textile Process-

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ing." This will be followed by a question and answer period. The meeting will be concluded with a banquet, beginning at 7 p.m.

### Standard Wool Grade Index Available

The United States Testing Co., Inc., 1415 Park Ave., Hoboken, N. J., has recently revised and reprinted a "Standard Wool Grade Index," which is available to the industry without charge. The recent demand for the "Standard Textile Moisture Regain Index," has prompted the reprinting of the wool grade cards. The revised cards show the grades based on Micron diameters and top numbers. In addition a chart showing fiber diameter distribution of standard grades and substandard grades, is included. These handy pocket-sized cards have been in constant demand for several years, and may be obtained without cost or obligation from the Hoboken laboratories.

### Council Announces Committee Appointments

Appointments of committees to lay plans for the cotton industry's 1953 research and promotion program, including appointment of an advisory committee to the council, was announced recently by Harold A. Young, president of the National Cotton Council. Textile executives named to serve on the various committees follow:

Production and marketing—A. B. Emmert, vice-president of Dan River Mills, Danville, Va.; Henry McD. Tichenor, president of Walton Cotton Mill, Monroe, Ga.; and A. K. Winget of American & Efird Mills, Albemarle, N. C.

Utilization research—M. Earl Heard, director of research for West Point (Ga.) Mfg. Co.; Charles C. Hertwig, president of Bibb Mfg. Co., Macon, Ga.; and Walter Regnery, vice-president of Joanna (S. C.) Cotton Mill.

Sales promotion—H. K. Hallett, vice-president of Kendall Mills, Charlotte, N. C.; J. M. Reeves, president of Reeves Bros., New York; J. Craig Smith, president of Avondale Mills, Sylacauga, Ala.; and Marshall C. Stone, general manager and treasurer of Pacolet (S. C.) Mfg. Co.

Foreign trade—C. A. Cannon, president of Cannon Mills Co., Kannapolis, N. C.; Shannon M. Gamble of Standard-Coosa-Thatcher Co., Chattanooga, Tenn.; and Ellison S. McKissick, president of Alice Mfg. Co., Easley, S. C.

Advisory committee—Dr. John H. Dillon, director of Textile Research Institute, Princeton, N. J.; Arthur B. Edge, Jr., president of Callaway Mills Co., LaGrange, Ga.; Percy S. Howe, Jr., president of American Thread Co., New York; Robert C. Jackson, executive vice-president of the American

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Cotton Manufacturers Institute; Harvey W. Moore, president of Brown Mfg. Co., Concord, N. C.; Dr. C. T. Murchison, economic adviser to the A.C.M.I.; W. A. L. Sibley, president of the A.C.M.I.; Robert T. Stevens of J. P. Stevens & Co., Inc.; and Mr. Cannon, Mr. Hallett, Mr. Heard and Mr. McKissick.

## Southern Dyeing Industry Held Leading Country

The dyeing industry in the South is now accomplishing the major part of this business in the country and is growing at a rate 50 per cent greater than the rest of the nation. This statement was made by W. O. Henley of American Aniline Products, Inc., before the recent Fall meeting in Chattanooga, Tenn., of the South Central Section of the American Association of Textile Chemists & Colorists.

In his talk entitled "Dyeing Then and Now," Mr. Henley warned that "if you would preserve your business, prolong its life, and avoid its death, you must keep a constant eye on the government at Washington who now, in this 1952, will reach into your tills and exact 82 per cent of any profits that you make. If you have had any government contracts, they will re-negotiate you on an even greater percentage of 'take.' If you do not, as a corporate entity, lend your services to watching, even as dyers, or boss dyers, or superintendents, or general managers, all of the alphabetical agencies through which the government owns and controls your business, it will be so easy for you to violate a law or regulations and suffer such severe penalties that your demise can be expected."

A second speaker, L. M. Miller of the chemical division of Armour & Co., outlined the increasing use by the textile industry of chemicals derived from the fats and oils of the meat packing industry.

Mr. Miller said the fats and oils industry was constantly searching for new compounds and new uses for those compounds now produced. The textile industry on the other hand, he said, is alert and open-minded, and is also always searching for improvements in its processing. "I hope that I have succeeded," Mr. Miller said, "in demonstrating the wisdom of our two industries collaborating for progress. We welcome your inquiries. We sincerely believe that your problems are our problems and that working together for their solution can only result in great mutual benefits."

E. E. Burgner, Jr., of Davenport Hosiery Mills, Chattanooga, was named chairman of the South Central Section.

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MANUFACTURING CHEMISTS FOR THE TEXTILE INDUSTRY

P. O. Anderson of Peerless Woolen Mills, Rossville, Ga., was named vice-chairman. Joe T. Bohannon of American Aniline Products, Chattanooga, was named secretary. W. F. Luther of Dixie Mercerizing Co., Chattanooga, was selected as treasurer. Glenn R. Bellamy of Ciba Co., Inc., Chattanooga, was named to the sectional committee, his term of office to expire in 1956. Other members of the sectional committee, with the dates of ending of term of office are: R. J. Quigg, Jr., R. J. Quigg Chemical Co., Knoxville, Tenn., 1953; J. H. O'Neill, Riegel Textile Corp., Trion, Ga., 1954; W. G. Agnew, Dixie Mercerizing Co., Chattanooga, 1955; H. A. Webb, General Dyestuff Corp., Chattanooga, is the retiring member of the sectional committee.

### Tobin Wage Hike Proposal Is Flayed

Reaction of Southern textile manufacturers to Secretary of Labor Maurice Tobin's proposal for a 13-cent increase, to \$1 an hour, in the minimum wage paid by cotton textile manufacturers having Federal Government contracts, was immediate and antagonistic.

An Atlanta, Ga., executive branded the new proposal as "stupid," adding that any increase in wages for those working under Walsh-Healy Act contracts will only add to the taxpayers' burden as goods must be priced upward to meet the boosts. John K. Cauthen of the South Carolina Cotton Manufacturers Association expressed the opinion that the worker can obtain a better gross income through a method of understanding and sincere co-operation between em-

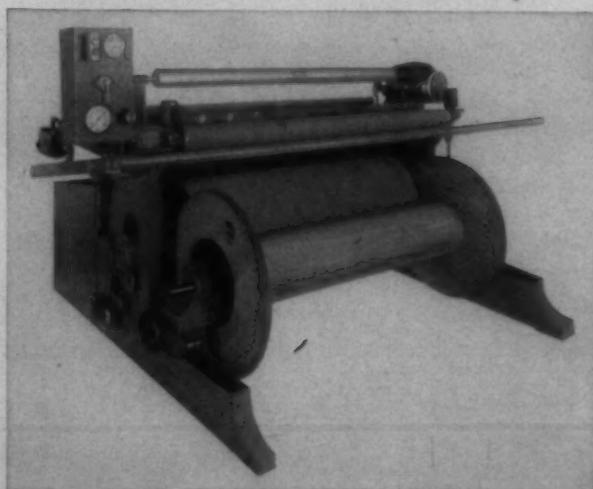
ployees and management than can possibly be obtained through the questionable interference of political opportunists, adding that "those areas whose politicians advocate the Tobin plan have a record of unemployment, abandoned plants, ghost communities and mills which have experienced long shutdowns and drastically reduced incomes from the owners."

Textile merchants of New York's Worth Street saw the proposal as another bureaucratic determination of wage scales for an industry. "There is no reason why the wage structure should be messed up by special pay scales for government contract work," one merchant declared, "particularly in view of the fact that government work constitutes less than ten per cent of the industry's operations." Others branded the proposal as a "final coup" and "parting shot" of the administration and of a sympathetic Secretary of Labor, in order to curry the favor of the unionized workers. This action, as well as the recent ruling granting coal workers an increase of \$1.90 a day, instead of the suggested \$1.50 of the Wage Stabilization Board, were cited as parting gestures and future reminders for the outgoing administration to shout about.

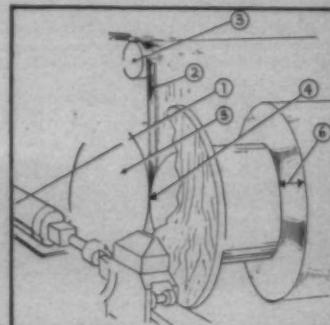
### Regnery Develops New Bale Covering

A new development by W. F. Regnery of Joanna (S. C.) Cotton Mills Co. may prove of considerable value in helping to eliminate tar spots on yarn and cloth, coming from bale ties on raw cotton, long a source of waste and expense

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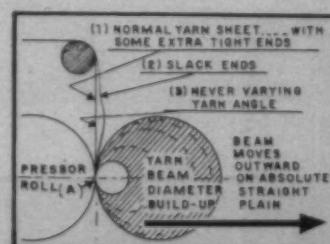


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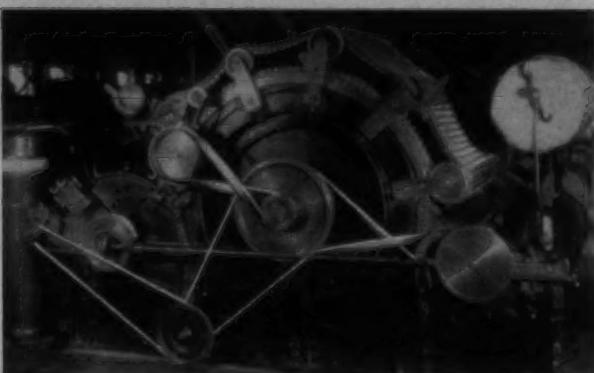
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to cotton textile manufacturing plants. Mr. Regnery's method is outlined in a recent issue of his company's house organ, *The Joanna Way*.

Tar from bale ties on cotton baled in the conventional jute bagging cause a considerable quantity of cotton to stick to the bagging when the bale is opened. This is wasteful, but far more damage is done when portions of the cotton from the bale go into the mill's manufacturing process carrying tar spots. These tar spots, if not caught, show up in the yarn and later in the cloth and must be cut out, causing second grade goods. Many attempts to solve the problem have been tried over the past few years, but all proved impractical for one reason or another.

Mr. Regnery's idea, which was then developed by the Institute of Textile Technology, Charlottesville, Va., is to use a new type of laminated paper-burlap covering for baled cotton instead of the conventional open-mesh jute bagging. This is a waterproof kraft paper laminated to a lighter-weight burlap similar to that used for wrapping cloth for shipment. The two materials are bonded with a clear latex adhesive. The new covering sells for little more than new burlap bagging, and since its re-sale value is higher, total wrapping cost per bale is probably less than with conventional materials. The new laminate already is being manufactured in three weights for commercial sale by Fulton Bag and Cotton Mills of Atlanta, Ga.

A quantity of cotton from this year's crop in the Memphis, Tenn., territory is being wrapped with this new covering and shipped to Joanna and three other mills which will test the new bagging. Some of the bales will be completely covered while others will have two sides open in the conventional manner. When the bales arrive, the condition of the coverings will be examined and the cotton will be identified throughout all manufacturing processes for further testing of the finished cloth.

Mr. Regnery points out that the new-type bale covering, even if proved successful, will not completely eliminate the tar spot trouble in cotton. Tarred bale ties no longer are being used, but tarred pick sacks still are being used in some cotton growing areas. This causes tar spots to show up within the bale of cotton. The new covering, however, will eliminate the possibility of damage from the time the bale is covered until it reaches the mill.

### History Of Aniline Told In Booklet

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a part it has in everyone's daily life. The fascinating story of this chemical is most interestingly told in a booklet, *The Aniline Story*, just issued by the National Aniline Division of Allied Chemical & Dye Corp., 40 Rector Street, New York 6, N. Y.

This brochure gives the history of what was man's first commercial synthetic organic chemical and describes its many present uses and future possibilities. Initially responsible for unlocking the doors to our vast synthetic dye industry, aniline has also become an important raw material in the manufacture of drugs, medicines, photographic film, rubber tires, explosives, rocket fuels, seed disinfectants, weed killers, anti-mildew agents, blue-print paper, printing inks, carbon papers and veterinary deworming pharmaceuticals. Present-day American production is the equivalent of nearly a pound per annum for every man, woman and child in the U. S. A.

#### U.S.D.A. Bulletin On Marketing Margins

Textile executives will be interested in a new bulletin published by the Department of Agriculture. It is the department's 295-page Technical Bulletin No. 1062, *Marketing and Manufacturing Services and Margins for Textiles*, by L. D. Howell, agricultural economist of the Bureau of Agricultural Economics.

An introduction to the bulletin states, in part: "As shown in this report, marketing margins cover all the charges made for services rendered from the time the raw cotton and wool leave the farm until the finished textile products are delivered to the ultimate consumer. Detailed data are presented in this bulletin to show the margins or costs for the services rendered and the items of cost included at each important stage in the marketing procedure. These data are designed to show the relative importance of these services from the viewpoint of costs, to indicate some of the factors responsible for or associated with differences in margins or costs, and to serve as a basis for indicating means of improvement."

Price of the bulletin is 60 cents and it may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

#### Dexter Heads A.S.M.E. Textile Division

Approximately 100 engineers and executives were in attendance at the annual meeting of the Textile Engineering Division of the American Society of Mechanical Engi-

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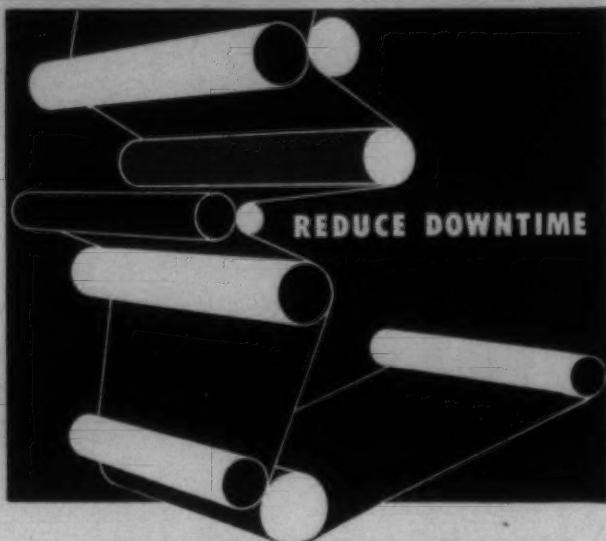
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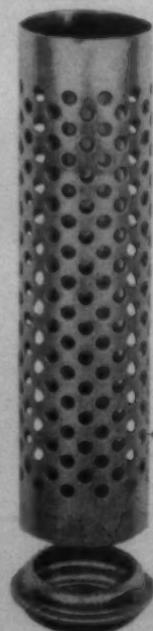
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neers held Dec. 5 at the Hotel Statler in New York City. Lindsay Dexter of Pepperell Mfg. Co., Boston, Mass., was elected chairman of the division succeeding Fred D. Snyder of Westinghouse Electric Corp., Boston. Named vice-chairmen were Leslie A. Runton of Alexander Smith, Inc., Yonkers, N. Y., and Ben Peacock of Whitin Machine Works, Atlanta, Ga. Robert M. Jones of Saco-Lowell Shops, Biddeford, Me., was re-elected secretary and Harold W. Ball of Foster Machine Co., Westfield, Mass., was elected treasurer.

Warmth, shrinkage, crease-resistance and other qualities can be engineered into fabrics, the textile engineers were told by Louis I. Weiner, chief of the textile materials engineering laboratory of the Philadelphia Quartermaster Depot. Mr. Weiner was one of five speakers addressing the A.S.M.E. textile engineering division.

Mr. Weiner told the meeting that the Quartermaster had found that significant improvements in performance can be made by some attention to the detail of structure. "The consuming public is becoming increasingly aware of functional properties of textile materials as contrasted with the appearance and handle which for years have been the basis for selection. This is a healthy sign. More and more, the demand will be for good function rather than high fashion," he said.

As an example of better manufacturing methods, Victor F. Sepavich, supervisor of engineering research, Crompton & Knowles Loom Works, Worcester, Mass., asserted that research efforts had produced a faster operating, more efficient loom with reduced maintenance. The machine, he observed, is the new C. & K. filling mixing loom which has been named the WC-A3.

Leo Rainard, of Alexander Smith, Inc., Yonkers, N. Y., told the meeting that filament spinning costs could be reduced sharply by use of the Textralizing process. Dr. Rainard's remarks are abstracted elsewhere in this issue.

Douglas Williams of Douglas Williams Associates told the group that workload changes could be made with employee co-operation if the workers shared in the decision to make the change. For instance, he said, it is possible to make personnel see the advantage of 850 secure jobs where 1,000 insecure jobs existed before.

Fourteen questions, the answers to which would form a code of ethics for production engineers, were posed by Nathaniel M. Mitchell, president of Barnes Textile Associates, Inc., Boston.

"Rather than attempt to indicate any specific set of rules, I am suggesting that practicing engineers serving in any

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or all branches of the profession ask themselves certain questions, and let their conscience and their common sense serve as their guides in evaluating the importance of each item," he said. Then he asked his 14 questions, which are:

(13) Are you conscious of the need to give credit where self that you have a clear, accurate understanding of the desired or required objective?

(2) Do you feel properly trained and entirely qualified to handle each assignment? In the event others are working in association with you, are you equally satisfied that they are properly qualified to serve in the assignment?

(3) Do you, before starting on a specific project, review your proposed procedures with those who may be affected by the results of your activities?

(4) Do you plan your activity in the direction of permanent benefits to your employer or your clients? Do you leave records and follow-up instructions to insure the continued benefits of your work?

(5) Are you consistent in your recognition of the importance of manifesting the highest degree of integrity in your work? Do you subscribe to the philosophy that loyalty to the firm you work for, to your associates and to your clients' interests is, in itself, a desirable personal code of ethics?

(6) Do you recognize your obligation to inform your client or employer of any connections or interests which might impair your required quality of impersonal interest in your work?

(7) Do you at all times strive to deliver a maximum of service?

(8) Do you recognize the need to withhold from association with any questionable activities?

(9) Do you regard as confidential all information concerning the business and affairs of an employer or a client which come to you in the course of your work?

(10) In conducting your engineering work, do you recognize the need to maintain an unbiased and impartial attitude at all times?

(11) Are you guided by the preponderant importance of human relations in all of your activities? Do you recognize the need to strive for the co-operation of all employees who may be affected by your activities?

(12) Do you recognize the need to maintain an impartial attitude toward other engineers and to the results of their activities?

(13) Are you conscious of the need to give credit where

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it is due, and not use methods devised by others without their permission?

(14) Do you subscribe to the philosophy that you should always be on guard against being party to any act or policy which is contrary to the highest principles of loyalty to our country, or to the public welfare as related to the life, safety or health of human beings?

"If those who serve as production engineers in the textile industry accept affirmative answers to the question submitted as their guide, and practice them, they will earn the industry's commendation of 'Well done,' and the integrity of the profession in our field will be secure," Mr. Mitchell declared.

### Give Millions For Community Improvements

The textile industry currently is spending millions of dollars on community improvements and other contributions to the over-all economy of areas in which it is located, a new survey shows. The survey was made by the Alabama Cotton Manufacturers Association. It discloses that textile mills in the state last year donated greater sums of money and more man-hours of time than probably ever before in their history to civic, educational, charitable and social projects.

The Alabama survey highlights community projects which are typical of those being undertaken by textile mills in communities throughout the nation, the Textile Information Service, which tabulated the results, said. Dwight M. Wilhelm, executive vice-president of the Alabama Cotton Manufacturers Association, said the survey revealed that the mills have engaged in activities ranging from the building and donation to their communities of schools and hospitals to the presentation of electric and water utility systems to the corporate bodies of towns in which the mills are located.

The Alabama survey covered 19 textile companies which operate 47 individual mills, employing more than 27,000 persons and having approximately 1,222,610 spindles. Of these companies, for example, 68.3 per cent participated in Red Cross blood donation programs with their employees giving urgently-needed blood. Approximately 79 per cent sponsored local recreational programs, many of these involving large expenditures for facilities and supervisors.

More than 68 per cent supported local churches generously. One mill company supports two churches with full-time pastors sharing one large building. In addition, the same company contributes freely to all other churches in

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its area, and recent gifts have helped establish new churches and enlarge facilities of others. Over 68 per cent, in fact, co-operated in building new churches in their towns and villages, nine aided in rebuilding or repairing churches, and three donated complete new church buildings last year. One had its mill carpenters build an extra room for a Sunday School building at a cost of \$2,000.

Evidencing their civic-consciousness, nearly 74 per cent of these mills co-operated in campaigns to induce employees and others in their communities to pay their poll taxes and exercise their right to vote.

Seven companies made substantial contributions toward building hospitals, and the same number also made special gifts to hospitals. In general, mill contributions in the field of public health have been outstanding. One company owns and subsidizes a fine hospital which also is open to the public generally at low rates. Another, which built a community hospital as a memorial to its late president, last year gave this institution radio equipment, including radio pillows for each bed, and a library of phonograph records. The same company furnished headquarters for a Crippled Children's Clinic for six east Alabama counties.

Another company and its officials contributed about \$350,000 toward building a new \$525,000 hospital, donated enough more to purchase extra land for construction of additions and a nurses' home for the future, and made up losses of about \$15,000 in taking care of patients not able to pay their own way. Another mill gave \$25,000 toward building a county hospital.

Aid to education came in for special attention from the mills. In one community, the mill company's charitable and educational foundation makes large gifts to local schools and charitable organizations. The modern senior high school in its headquarters city was made possible by a gift of about \$400,000, and a drive for a local Negro high school was sparked by its offer of \$50,000 if matched by local funds. The foundation further supplies funds for operating a Negro nursery.

Another company donated to a community in which it operates a school building and public utilities valued at \$750,000. Still another gave two school buildings and electric and water utility systems to the town. And yet another made an outright gift of a six-room school building to the county, together with funds for playgrounds, etc.

Virtually all Alabama mills, the survey shows, engage in numerous activities in co-operation with the schools. These

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#### **Cut In Thread Price Called Unlikely**

With no price reduction in the offing, cotton thread customers should not hesitate to purchase their 90-day requirements it was stated by Josef Pollack of Max Pollack & Co. before the recent annual meeting of the Thread Institute in New York City. Mr. Pollack was re-elected chairman of the institute at the 19th annual meeting. All other officers were re-elected also, with three new directors being named: F. L. Johnson of Belding, Hemingway Co., Justin J. Bayer of W. Warren Thread Works, and Maurice M. Chaffin of Bay State Thread Works. Mr. Johnson and Mr. Bayer were elected for three-year terms and Mr. Chaffin for one year.

Mr. Pollack explained the price structure never had risen in relation to the market costs of raw cotton and cotton yarn. He pointed out that the thread industry was the largest buyer of Egyptian and long-staple American cotton, but contended that its position as purchaser of this type cotton "had been handicapped by the machinations within the War Munitions Board."

"The order to purchase a large stockpile had been secretly given to interested parties both here and abroad and it resulted in the squeeze play whereby Egyptian cotton was driven last year to the highest cost of all time, where liquidation of inventories was the order of the day," Mr. Pollack declared. "Our industry found itself tied and shackled."

The industry, he continued, could not afford to pay these inflated prices for its raw materials and as a result the era of the blend was launched which, "while satisfactory for the time being, was only a substitute for the real Egyptian cotton."

Production developments and a shift in technique have combined to bring about a "real revolution" in the cotton industry, Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute, declared.

Highlighting the developments, Mr. Jackson said, was the shift in the cotton crop to the West, "opening up a whole new area, a probable consumption increase over 1951 and a three million population increase over last year. Mr. Jackson predicted a consumption of 9,750,000 bales against the government's forecast of 9,500,000 and last year's total of 9,200,000 million bales. The shift in technique, he said,

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was brought about by the labor shortage which has sped up mechanization.

Total sales of cotton thread for the third quarter showed an upward trend amounting to 15 million pounds, David Snyder, executive director of the institute, stated in his annual report. This, he said, was a gain of 15 per cent over the previous quarter. At the same rate, Mr. Snyder explained, sales for calendar 1952 may again reach the 1951 total of 60 million pounds.

He further stated that while it was a poor year compared to the war and immediate post-war periods, this volume may be considered relatively good, since it represents a per capita consumption of approximately 39 hundredths a pound. This compares with a per capita consumption of 38 hundredths a pound in 1939 and is actually higher than the per capita consumption of cotton thread in any previous peacetime pre-war year in recent history, Mr. Snyder pointed out.

### Textiles North Carolina's Largest Employer

North Carolina not only leads every state in the nation in employment in the textile industry, but more than one-third of all employment and more than 55 per cent of all manufacturing employment, in the state, as covered by the Employment Security Program, is engaged in the manufacture of textile products.

The *E. S. C. Quarterly*, published by the Employment Security Commission of North Carolina, in its current issue, shows that North Carolina mills employed 18.5 per cent of all textile workers in the United States in 1951. Pennsylvania makes a poor second with 11.6 per cent of the nation's total. Moreover, textiles are manufactured in 72 of the states' 100 counties. In four counties more than 10,000 workers are employed; 12 others have more than 5,000 employees; nine more counties have more than 2,500 employees, and 19 other counties have more than 1,000 textile workers.

Articles were written by M. R. Dunnigan, editor, on about 25 of the leading textile manufacturing firms in the state, largely those with multi-units. These include Cannon, Burlington, Cone, Erwin, Robbins, Textiles, Inc., Johnston, Roanoke Rapids group, American & Efird, J. P. Stevens, Firestone, Chatham, Leaksville, Fieldcrest, Collins & Aikman, American Enka, Biltmore Industries, Rocky Mount Mills and others.

About 115 pictures, largely of thoroughly modern plants and up-to-date machinery, are carried in the issue.



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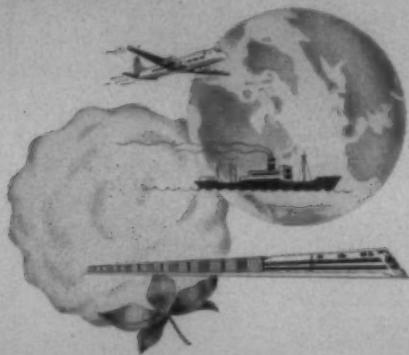
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### Industrial Fabrics Booklet Is Available

Wellington Sears Co. recently announced the issuance of a 24-page, illustrated booklet on industrial fabrics with the title of "Modern Textiles for Industry." Several months in the making, the booklet is an interesting word-and-picture round-up of factual information on industrial fabric applications and developments. The reader is taken through from fiber to end use in many different types of industry. It is authoritative in that it reflects the 107 years' experience of Wellington Sears in developing and specifying industrial fabrics and the tremendous variety of special constructions being produced for industrial customers today by the mills of West Point Mfg. Co., Wellington Sears' parent organization. Willfred W. Lufkin, Jr., president of Wellington Sears, announced that in addition to distribution among present and potential users of industrial fabrics, the booklet will continue to be offered to readers of the company's extensive advertising campaign for this type of textile.

### Carded Cotton Sales Yarn Output Listed

Carded cotton sales yarn production during the third quarter of 1952 amounted to approximately 141,600,000 pounds, only slightly less than the 142,196,000 pounds produced during the second quarter but some 13 per cent below the 1951 quarterly average of 162,662,000 pounds. A. Henry Thurston, director of the textile division, National Production Authority, Department of Commerce, announced in releasing a preliminary report on mill operations.

The most significant decreases, from the second to the third quarter, were in output of "other ply" weaving yarns, 17.4 to 11.6 million pounds, and "hose cord," 2.2 to 1.6 million pounds. At the same time, "machine knitting" yarn production rose from 32.7 to 37.5 million pounds and substantial increases also were noted for carpet yarns and for cordage, rope and twine yarns.

Mr. Thurston pointed out that, in contrast to the slightly lower output, machinery activity increased during the quarter. Spinning spindles in place averaged 90.1 hours per week compared with 80.9 per week in the preceding quarter, and twisting spindles averaged 88.3 hours as against 82.8 in the earlier period. The reports indicate that the apparent paradox of lower production and a higher rate of operation probably was accounted for by a shift to finer counts of yarns, resulting in lower production per spindle hour.

The 21,175,000 spinning spindles in place and assigned to the production of carded cotton sales yarn operated a total of 2,547,598,000 hours, or an average of 90.1 spindle hours per week. As some of these spindles were idle during the quarter, weekly operating rate of the active spindles average 94.1. Twister spindles in place in the July-September quarter totaled 575,939 and ran 660,824,000 hours,

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averaging 88.3 spindle hours per week, or, on the basis of active spindles 98.19 hours per week.

Shipments during the third quarter exceeded production by almost five million pounds, indicating a reduction in stocks from the second quarter. Shipments on rated orders, amounting to 14.5 million pounds, or 9.9 per cent of total shipments, were at the lowest level since the first quarter of 1951. This drop in rated orders reflects lower requirements of cotton duck and webbing mills for purchased yarns and the ability of consumers to obtain yarn without extending a rating.

When all reports have been compiled, final figures will be published by the Bureau of the Census in its Facts for Industry Series, N.P.A. said.

### Egypt Initiates New Cotton Policy

The Egyptian government has taken over control of the country's cotton trade and Egyptian Finance Minister Abdel Quelil El Emery has expressed the hope that the move will increase foreign demand for Egyptian cotton. He emphasized, however, that the government's new cotton policy was concerned principally with enabling growers to receive a fair price for their cotton and to prevent speculators from inflating prices.

In pre-war years cotton accounted for 75 per cent of Egypt's exports. It is believed that the sharp drop in cotton exports during the past two years is one of the main reasons for the dwindling of Egypt's foreign currency holdings and resultant general economic stagnation.

### New Textile Fiber Under Development

Unconfirmed reports are circulating in trade circles that the B. F. Goodrich Co. is giving attention to a staple of polyvinylidene cyanide. Some of the primary work in evaluating the new fiber is reported under way at Lowell (Mass.) Textile Institute, which has declined comment on the new fiber. Other sources say that North Carolina State College School of Textiles also is involved, but comment was also unavailable there.

There have been reports in the market for some time that Goodrich was working on a new fiber of polyvinyl chloride in combination with acrylonitrile, which would be in the dynel class. However, trade sources do not think the present fiber evaluation experiments are with this fiber.

Goodrich is one of the major suppliers of polyvinyl chloride and has worked on the use of vinylidene chloride. It is felt that the work on the polyvinylidene cyanide is a logical result of this earlier work.

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**ALLEN-BEAM CO.**, 156 River Rd., New Bedford, Mass. Sou. Repr.: Joseph Bowler, Jr., 107 McGee St., Tel. 3-3289, Greenville, S. C.

**ALLEN WARPING CO.**, 40 Church St., Lowell, Mass. Sou. Repr.: Woodrow F. Tinsley, Route 5, Rosewood, Greenville, S. C.

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**AMERICAN ANILINE PRODUCTS, INC.**, 30 Union Square, New York 3, N. Y.; Works at Leck Haven, Pa.; Sou. Warehouse and Laboratory: 1500 Hutchison Ave., Charlotte, N. C.; Warehouse and Laboratory, 4001 Rossville Blvd., Chattanooga, Tenn. Sou. Repr.: J. H. Orr, Mgr., Charlotte, N. C.; George R. Howard, Charlotte, N. C.; Gayle Rogers, Charlotte, N. C.; W. D. Livingston, Greensboro, N. C.; Marion West, Jr., High Point, N. C.; C. O. Starnes, Rome, Ga.; J. T. Bohannon, Jr., and R. W. Freeze, Chattanooga, Tenn.

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Supply Co., Greensboro, N. C.; Textile Mill Supply Co., Charlotte, N. C.; Textile Supply Co., Dallas, Tex.

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December, 1952 • TEXTILE BULLETIN

# Before Closing Down

- TEXTILE INDUSTRY HAPPENINGS AS THE MONTH ENDED -

## PERSONAL NEWS



J. Rollins Jolly has been named manager of the six Southern Division spinning plants of American Thread Co. These plants are located at Dalton, Newnan and Tallapoosa, Ga., and at Clover, S. C., and Troutman, N. C. Mr. Jolly has been with American Thread Co. since 1944, having served as superintendent of the Tallapoosa and Dalton plants and later as general superintendent of the Georgia plants. Prior to his recent appointment he was director of industrial relations for the Southern Division.

Oliver R. Cross has been appointed treasurer and C. F. Goldsmith has been named secretary of Cross Cotton Mills Co., Marion, N. C.

G. P. (Jack) Stanley of Greenville, S. C., has been appointed sales representative for the state of South Carolina by Meadows Mfg. Co., Atlanta, Ga.

Charles Rice of American Viscose Corp., Elwood F. Altmier of Du Pont, James Fortune of American Bemberg Corp., Jack Hanson of American Enka Corp., and A. Shoenberger of Industrial Rayon Corp., have been named as a five-man task group to make a study on behalf of viscose-type rayon yarn with the purpose of formulating a co-operative industry promotional program. Mr. Rice is chairman of the group.

Harry W. Kaley has been elected president of Borne-Scrymser Co., Elizabeth, N. J., succeeding William L. Less, resigned. Mr. Kaley formerly was a vice-president of the Ethyl Corp. of New York. . . . Announcement also was made of the resignation of

Louis T. Morrow as executive vice-president and general manager. Mr. Morrow had been with Borne-Scrymser since March, 1950.

Robert F. McKown has resigned as general superintendent of the finishing plant of Riegel Textile Corp., Ware Shoals, S. C., to become Southern sales representative of Hart Products Corp. He will be in charge of Hart's Spartanburg, S. C., sales office.

William E. Gilliam, formerly associated with American & Efird Mills, Mount Holly, N. C., has joined Commercial Factors Corp., New York, as a sales representative. Mr. Gilliam will make his headquarters in Charlotte, N. C., at 3025 Hanson Drive.

Harold Mercer, general manager of Firestone Textiles, Inc., Gastonia, N. C., has been named to head the Boy Scout program in the Gastonia district for the coming year.

William Rhea Blake, executive vice-president of the National Cotton Council, and Morris Sayre, president of Corn Products Refining Co., New York, have been named by the Harvard Graduate School of Business Administration to serve on an advisory committee for a new research and teaching program in relations between agriculture and business.

W. O. Bryant of LaGrange, Ga., has been named resident superintendent of Kingston Mills, Inc., Cartersville, Ga., succeeding B. A. Henderson, whose resignation will be effective Jan. 1.

John Tillett, Jr., who has had wide experience in textile sales and service field since completing his formal education, has joined the Calco Chemical Division of American Cyanamid Co. at its Charlotte, N. C., headquarters. At the present time he is going through a period of laboratory training, and later will be assigned a sales territory out of the Charlotte office. Mr. Tillett is an

alumnus of the University of North Carolina and Massachusetts Institute of Technology. His late father was an official of Leaksville Woolen Mills at Charlotte and Leaksville, N. C.

R. Edgar Benson of Woodward, Baldwin & Co., Inc.; Marvin Cross of Greenwood (S. C.) Mills, Inc.; and Robert Jenkins of James H. Dunham & Co., have been named to the board of trustees of the Worth Street Historical Society, New York.

J. R. Davison, vice-president and general manager of Royston (Ga.) Mills, Inc., has been elected to serve on the Royston City Council.

R. Findley Thompson has been named assistant plant manager of the Amcelle Plant of Celanese Corp. of America at Cumberland, Md. Mr. Thompson had been assistant manager of the Celco Plant of the company since September, 1951, and previously had been superintendent of the Celco cellulose acetate department.

Dr. F. H. Craddock, physician and surgeon of Sylacauga, Ala., has been named a vice-president of Avondale Mills. Dr. Craddock heads the company's medical department and will continue in that capacity. . . . Donald Comer, Avondale's board chairman, recently was re-elected a director of the Federal Reserve Bank of Atlanta.

Rufus S. Frost, vice-president and treasurer of Crompton & Knowles Loom Works, Worcester, Mass., has been named acting president of the company, filling the vacancy created by the recent death of John F. Tinsley. Mr. Frost has been with Crompton & Knowles since 1915. A permanent president is expected to be named in March.

D. R. LaFar, Jr., of the LaFar Group of textile mills with headquarters at Gastonia, N. C., and A. G. Myers, Jr., secretary of

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## BEFORE CLOSING DOWN

Threads, Inc., Gastonia, recently were elected executive vice-president and treasurer, respectively, of the Piedmont Council, Boy Scouts of America.

## OBITUARIES

**Harry W. Butterworth, Jr.**, 62, chairman of the board of H. W. Butterworth & Sons Co., Philadelphia, Pa., manufacturer of textile finishing machinery and rayon spinning machines, died Dec. 17 at his home in Philadelphia. Mr. Butterworth devoted his entire business career to the Butterworth company, serving as director for 32 years, secretary for six years, vice-president for nine years, and finally president from 1936 to 1952. He retired as president in March of this year and became chairman of the board. Survivors include his wife, one son, a daughter, two sisters and a brother, De Haven, vice-president of the Butterworth firm.

**Louis W. Dommerich**, 67, chairman of the board of L. F. Dommerich & Co., factoring firm of New York, died recently. Interment was made Dec. 16 at Greenwich, Conn. A son of the founder, Mr. Dommerich joined the firm in 1907 following his graduation from Yale University. Surviving are his wife, two daughters, and a son, William L., executive vice-president of the factoring firm.

## MILL NEWS

**GREENSBORO, N. C.** — Burlington Mills Corp. announced Dec. 15 that it has borrowed \$15,000,000 from the Prudential Insurance Co. The firm said it sold 3.90 per cent promissory notes to Prudential that mature in 20 years. Proceeds will replace the \$15,000,000 the company spent to purchase the capital stock of Peerless Woolen Mills.

**KINSTON, N. C.** — E. I. du Pont de Nemours & Co., Inc., recently announced that it will build a \$3,000,000 fiber laboratory to perform research on its new fiber, Dacron. The laboratory is scheduled for completion late in 1954. It will be constructed on the site of Du Pont's \$40,000,000 plant now nearing completion.

**GASTONIA, N. C.** — Talon, Inc., Meadville, Pa., manufacturer of zippers, is locating three of its plants in North Carolina — two in Gaston County at Belmont and Stanley and a third at Woodland in Northampton County. The Stanley plant will employ about 150 persons. It will represent an expansion of Talon's tape weaving program and the added production will supplement that of the company's other plants. Talon bought 13 acres at Stanley and plans to erect a building containing 60,000 square feet of floor space. Talon purchased all the manufacturing facilities of Slide Fastener Cord Co. at Belmont, employing about 50 persons. The plant there will fabricate cord for Talon and its subsidiaries. An estimated 185 persons will be employed at Woodland in a plant that will contain 21,000 square feet of floor space.

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